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Foreign Agricultural Service

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I. INTRODUCTION

What is ICD's mission?

The Foreign Agricultural Service's International Cooperation and Development (FAS/ICD) program area mission is to enhance the competitiveness of U.S. agriculture and preserve natural resources systems while pursuing sustainable economic development worldwide by mobilizing the resources of USDA and its affiliates.

Enhancing Global Competitiveness

ICD programs enhance U.S. agriculture's competitiveness by providing linkages to world resources. These linkages often produce new technologies that can be vital to improving our current agricultural base, and developing new and alternative products and markets.

All of our major agricultural crops, representing 90 percent of U.S. crop value, originated outside the United States. To be truly competitive, the U.S. agricultural community needs access to the genetic diversity that still remains in those original locales.

There was a time when the United States was supreme in agricultural technology, but that is less true today. Much

can be gained by seeking out and importing new technology, from international research centers and universities.

ICD helps scientists from the U.S. Department of Agriculture, the university community, and others to establish relationships that foster the free flow of ideas and materials internationally.

ICD also conducts programs which facilitate trade linkages and promote investment overseas.

Providing U.S. Expertise Overseas

ICD serves as a link between the technical expertise of the U.S. agricultural community and other nations, especially in the developing world. By sharing U.S. agricultural knowledge with less developed nations, the United States provides the tools to help build stable economies and a more prosperous world. In the process, less developed nations surmount the barriers of hunger and poverty; and they develop a knowledge of and positive identification with U.S. institutions, products, and services.

When agricultural production and incomes increase, people's diets and nutrition improve.

Rising incomes also permit them to increase their imports to help meet demands for more and different foods. History has demonstrated that nations moving from low- to middle-income status have become the largest growth markets for U.S. agricultural exports.

Economic development is a continuum: the least developed graduate from grant aid to concessional aid, and ultimately take their place as full partners in the marketplace. Thus, ICD -- helping countries to advance along the continuum and strengthening our own agricultural economy -- supports the broader mission of USDA.

How does ICD accomplish its mission?

ICD pursues a number of program objectives in order to fulfill its two fold mission:

- o Link with and support the private sector and other public and private institutions in those responsibilities where they can best play a major role;

- o Facilitate trade and investment interests of the U.S. agribusiness sector;

- o Establish systems that allow U.S. agriculture's continuing access to technology, genetic material, and other unique

resources worldwide;

- o Establish systems that encourage U.S. agricultural scientists and institutions to be involved in global programs that are on the cutting edge of technology and of economic and policy debate;

- o Mobilize expertise to help other countries move toward strong market and trade-oriented economies, via development efforts in food and agricultural systems that increase incomes among the poor majority; expand the availability and consumption of food; and maintain and enhance the natural resource base;

- o Help other Federal agencies carry out their global missions by tapping USDA and other institutional expertise and resources;

- o Serve the interests of U.S. agriculture and citizenry through international organizations related to food and agriculture.

II. OVERVIEW OF ICD

How is ICD organized?

To carry out its program objectives, ICD is organized into four major program divisions under the direction of a Deputy Administrator (Appendix A) who reports directly to the Administrator of the Foreign Agricultural Service:

* The Food Industries Division promotes a vital, healthy private sector in the United States and abroad. The Division organizes marketing workshops and provides information services, in-country technical team visits, and missions that link U.S. and foreign entrepreneurs to expand business opportunities. The Division also arranges career-related training for foreign agriculturalists, such as:

- o The Cochran Fellowship Program for professionals from middle-income countries and emerging democracies to foster mutual trade and development interests; and

- o Academic and non-degree training sponsored by other USDA agencies as well as other governments and international organizations.

* The Research and Scientific Exchanges Division (RSED) seeks new knowledge and technology beneficial to the United States and cooperating countries

through collaborative research and scientific exchanges on a broad range of subjects in agriculture and forestry. Short-term visits between U.S. and foreign scientists are supported to acquire scientific or agroeconomic data, special research techniques, unique resources such as germ plasm or biological control organisms not available in the United States, and to consult or conduct field work on significant problems facing U.S. agriculture. Through long-term projects, the division supports collaboration between U.S. researchers and their international counterparts on high priority problems. Some of the research is carried out by investigators in foreign laboratories. Other projects are conducted jointly by scientists in the U.S. and cooperating laboratories overseas. Research often is conducted at much lower cost than is possible in the United States.

* The Development Resources Division is responsible for planning, managing and coordinating USDA technical assistance and training programs to assist in the development of economically sustainable agricultural systems in lower and middle income nations and the newly emerging democracies. These programs help countries to improve the environment and

quality of life of their population, while at the same time expanding commercial markets for U.S. farm and forest products and ensuring mutual economic growth.

The division seeks to accomplish its mission through:

- o facilitating the transfer of agricultural technology and technical information and management skills from USDA experts to collaborating nations and organizations;

- o contributing toward the development and maintenance of a sustainable global agricultural system which assures adequate food and fiber for the world's population;

- o enhancing durable trade relationships.

The division is organized in three branches that deal with bilateral and technical assistance and training needs in natural resources and the environment, management and technical courses, and technical information. The division coordinates the bulk of the Department's technical assistance program, utilizing FAS/ICD technical staff and recruiting short- and long-term technical advisors on agricultural specialties, primarily from USDA technical agencies and also from the U.S. land-grant university system and the private sector.

* The International Organization Affairs Division advances and protects U.S. agricultural interests by keeping U.S. policy views before the international community. The division manages USDA's role in such organizations as the Food and Agriculture Organization of the United Nations, the Organization for Economic Cooperation and Development, and the Inter-American Institute for Cooperation on Agriculture.

How is ICD staffed?

ICD is an organization of approximately 185 people, of whom about 100 are permanent staff. The remainder hold various kinds of non-permanent positions related to specific fixed-term contracts which the agency manages. Almost all ICD staff are located at the headquarters in the Washington, D.C. area.

Given the diverse programs of the agency, ICD boasts a similarly diverse work force reflecting an array of social and practical scientific skills, administrative expertise, and language ability.

How is ICD financed?

In FY 1994, ICD had an operating budget of \$49 million (Appendix B). Only \$7.1 million of that amount came

from funds appropriated to ICD by the Congress. The appropriated funds serve primarily to operate the agency's research and scientific exchange programs, international organization liaison function, and the Cochran Middle-Income Fellowship Program.

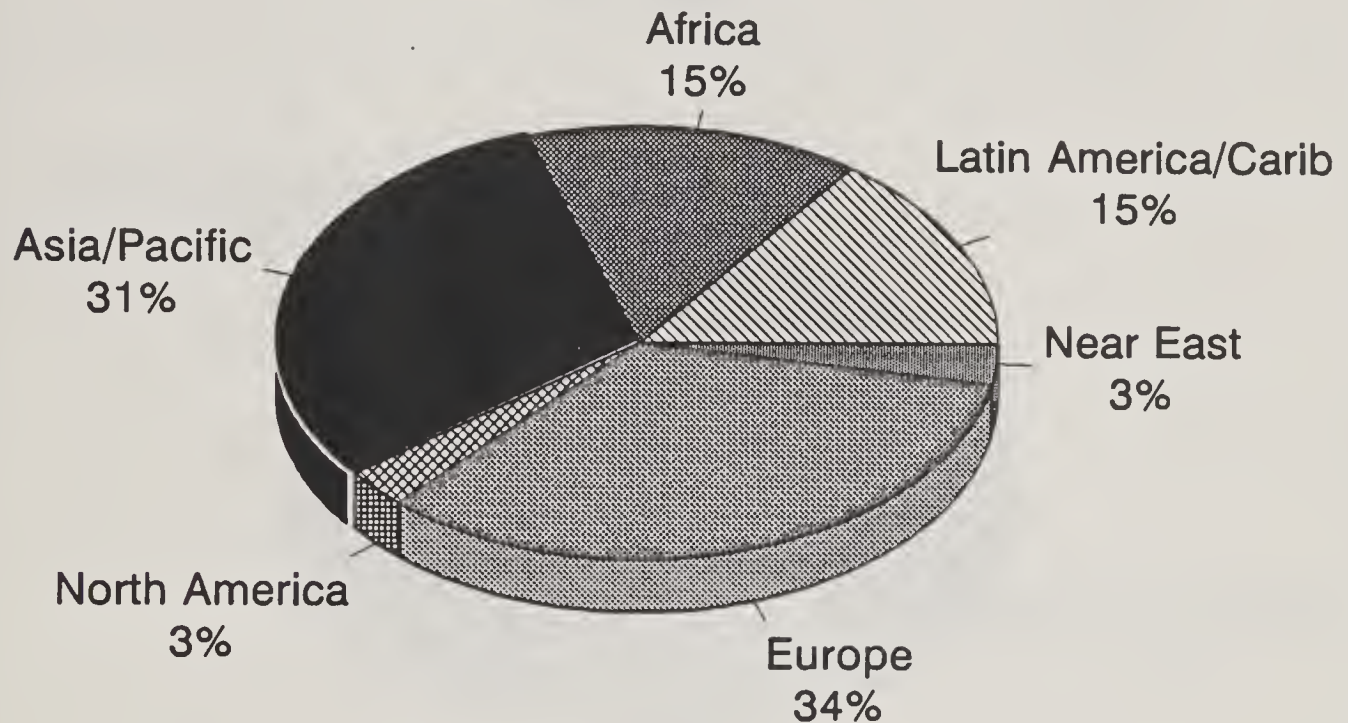
The largest part of the agency's budget - about \$37.4 million - comes from other federal agencies, international organizations, and universities for reimbursable technical assistance, research, and training which ICD manages. Roughly 68 percent of these funds came from A.I.D.

An additional \$4.7 million was expended in FY 1994 for development assistance activities managed by ICD on behalf of other countries and international organizations. These activities include technical assistance, training, and research.

Of the \$49 million available in FY 94, 76 percent was used for program purposes, 16 percent in program management, and 8 percent for agency management.

III. PROGRAM ACTIVITIES IN FY 1994

ICD Technical Assistance, Training, Research and Exchange Activity By Region in FY 1994



Technical Assistance = Short-term Expert Visits

Training = Completed Cochran, Prof. Development & Tech. Course Participant Training

Research = # of projects; Exchanges = U.S. Exchange Participant Visits

ICD Overview

Continuing the emphasis begun the previous year, in FY 1994 Europe represented the region of heaviest programmatic activity. This is largely due to expanded effort in support of the Administration's emphasis on Eastern Europe and the newly independent states of

the former Soviet Union. The Asia/Pacific region again ranked a close second, with roughly equal activity carried out in Africa and the Americas.

Short-term Training

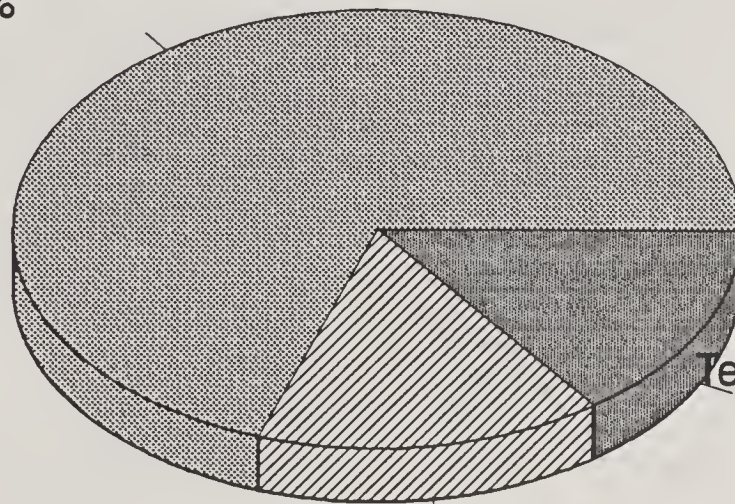
ICD manages several programs with different operating modalities which provide short-term training to foreign

nationals. They are: (1) Cochran Fellowship Program; (2) Professional Development

association meetings. AIC staffed an information booth at meetings of the Produce

Short-term Training Completed by FAS/ICD By Program Area FY 1994

Cochran Fellows
70%



Technical Courses
15%

Professional Development
15%

Program; and (3) Technical Course Program. Each program is described in detail below. The following chart shows the relative magnitude of these programs in FY 1994.

FOOD INDUSTRIES

Trade and Investment

One of FAS/ICD's key links with the U.S. and foreign private June 5, 1995 professional

Marketing Association, United Fresh Fruit and Vegetable Association, Caribbean/Latin American Action, Food Pack of the Americas, and a U.S.-Bahamas business organization. The Agribusiness Information Center (AIC) enhanced its collecting and disseminating of agribusiness data in 1994 by introducing CD-ROM capabilities and expanding its agribusiness information sources on Africa, Asia and Europe.

The AIC was the focal point for arranging agribusiness orientation programs and internships for agricultural sector representatives and students from Hispanic universities. An AIC staff member spent a month with USAID's Center for Business Development gaining better understanding of the objectives and resources of that information center, and a week in FAS' Agricultural Export Services Division establishing closer working relationships. The AIC fields about 25-30 inquiries per week from U.S. and foreign agribusiness officials with more requests now coming from the NIS, Africa and Asia as well as the Caribbean and Latin America.

One agribusiness opportunity mission to Hungary was organized and carried out this year, and preparations for missions in Romania, the Bahamas and Turkey have started. Thirteen U.S. agribusiness representatives met with carefully matched Hungarian counterparts, resulting in four to six business arrangements which are being developed. U.S. companies were helped to develop opportunities to sell U.S. food, hybrid corn seeds, and pollen-based personal care products, bottling and feed milling equipment and develop profitable arrangements for importing pumpkin seeds and oil, specialty herbal oils and wine.

In FY 1994, the U.S. Agency for International Development (USAID) and USDA's Foreign Agricultural Service/Emerging Democracies Office financed 7 agribusiness planning and marketing seminars which were jointly organized by TIP staff and collaborating organizations in Uganda, Ivory Coast, Madagascar, Zambia, Poland, Jamaica, and El Salvador. TIP staff gave agribusiness presentations at 5 additional international seminars organized by business organizations in the Bahamas, Barbados, Florida and Washington, D.C. Preparations are underway for 2 seminars in Romania and El Salvador scheduled for the fall of 1994. The Central European workshops include small agribusiness exhibits which promote sales of U.S. agricultural products, machinery and services.

The El Salvador workshops (on retail food merchandising and warehouse management) are a follow up to last year's Emerging Democracies-funded high value food sector assessment team visit. The team identified opportunities for U.S. grocery exports to that expanding market, and made practical recommendations on how to strengthen the food marketing and distribution system in El Salvador. TIP and Emerging Democracies staff brought 25 Central American grocery industry representatives (including 15 from El Salvador) to the May 1993 annual Conference and

Exposition of the Food Marketing Institute in Chicago. There, U.S. food manufacturers and exporters and the Central Americans had opportunities to explore trade potential. Following the Conference, the group visited wholesale and retail grocery facilities in Illinois and Indiana.

Through TIP's reimbursable arrangement (RSSA) with USAID's Africa Bureau, U.S. agribusiness companies increased access to Sub-Saharan agribusiness opportunities (i.e., a U.S. essential oils company developed ties with a Guinean company and a U.S. spice company developed trade ties with Ugandan exporters). TIP RSSA staff participated in organizing and making presentations at 4 USAID-sponsored agribusiness workshops held in Ivory Coast, Uganda, Madagascar and Zambia, in which small African agricultural enterprises were given practical, hands-on assistance in developing business plans. TIP's RSSA staff also assisted USAID in designing its agribusiness development strategies in Southern Africa and worked with Project SUSTAIN to help develop a food processing technical extension unit in Cameroon. TIP also helped organize a U.S.-West African regional Trans-Atlantic Trade Conference held in September 1994 in Guinea. The Conference promoted increased agricultural trade centering on the ports of Conakry and Philadelphia.

A Participating Agency Service Agreement (PASA) with the USAID Near East Bureau facilitated an Economic Research Service study of the potential market and potential pitfalls of promoting Near East perishable agricultural product exports to Europe. The study not only identified Near East country opportunities, but alerted USAID to avoid promoting products where U.S. producers enjoy a comparative advantage. Results of the study are also beneficial to U.S. perishable producers. A visit by ERS staff to the International Trade Center (ITC) in Geneva may facilitate agricultural economic analysis collaboration between ERS and the ITC in the region.

TIP staff provided agribusiness support to USAID's Morocco Mission by recruiting experts to train food quality laboratory staff, procuring hardware and software for a LAN system and implementing related training for the Ministry of Agriculture and the Moroccan equivalent of the U.S. Food and Drug Administration, EACCE. TIP secured the services of a senior-level international food standards specialist to visit Morocco to evaluate the country's food quality laboratory capability and recommend equipment purchases. TIP staff also facilitated U.S. short course training for Moroccan experts on plant quarantine and integrated pest management.

The PASA with USAID's Asia Bureau to support the Regional Agribusiness Project (RAP) provided a unique opportunity to organize a team of U.S. technical experts to advise the Government of Indonesia on modernizing its food safety and quality regulatory system. TIP staff participated in an assessment team to evaluate agribusiness related technical assistance needs for Sri Lanka, Indonesia and the Philippines. As a result of the visits, TIP is participating in developing a plant health and quarantine workshop, a post harvest technology seminar, and a food processing safety workshop based upon the Hazard Analysis at Critical Control Points (HACCP) concept for the South and Southeast Asian regions. Additionally, TIP facilitated ERS participation in price analysis for high value horticultural commodities in Korea.

Under a PASA with the USAID mission in Kingston, Jamaica, TIP conducted four study tours to the United States in conjunction with major U.S. agribusiness events. Three persons attended the Produce Marketing Association annual meeting in Washington, D.C., one attended the Food Pack of the Americas in Miami, Florida; two attended United Fresh Fruit and Vegetable Association annual meeting in San Diego, California; and three attended the annual produce tour sponsored by the Food Marketing Institute in collaboration with

the above groups. One Jamaican plant protection inspector attended the USDA Agricultural Marketing Service's training program for Grades and Standards Inspectors. TIP also organized and presented a seminar at three locations on post harvest handling of dasheen and other root crops in Jamaica in May. All PASA activities were completed by June 30, 1994.

A complete list of business workshops, missions, and consultations is contained in Appendix C.

Cochran Fellowship Program

Since Congress initiated the Cochran Middle-Income Country Fellowship Program in 1984, training in the United States has been arranged for more than 3,350 senior and mid-level specialists, managers, technicians, agribusiness staff, and policy officials from 36 middle-income countries and emerging democracies. The training is intended to assist these countries in developing the agricultural systems necessary to meet their food needs, and to strengthen and enhance their linkages with agricultural interests in the United States. In fiscal year 1994, 519 Cochran fellows from 34 countries completed training in the United States (Appendix D).

In 1994, in addition to Congressional Appropriations, the Cochran Program received

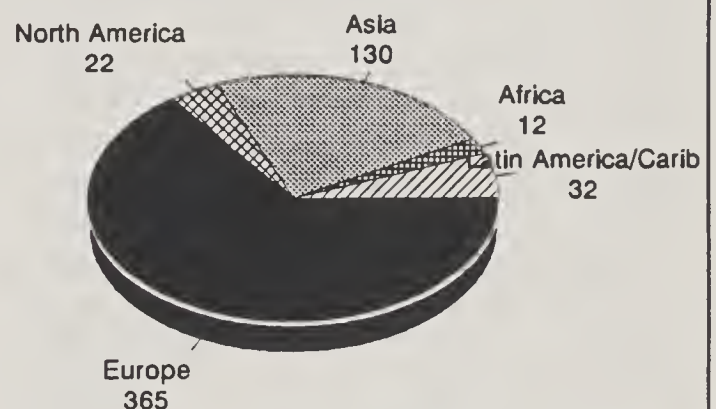
funding from the US Agency for International Development (USAID) to continue the program in the countries of the Newly Independent States (NIS) of the former Soviet Union, and from USDA's Emerging Democracies Program to increase the number of Cochran fellows from Eastern European and NIS countries that are eligible for Emerging Democracies Program funding. Fellows came from both the public and private sectors of their countries, and participated in training programs arranged by ICD with U.S. universities, USDA offices, and the private agribusiness sector. The subject matter ranged from phytosanitary and food safety controls, to livestock genetics, to agribusiness management, to grain marketing, wholesale and retail food marketing, to agricultural policy and trade.

The Cochran Program is a unique example of public/private sector collaboration in support of international development objectives. It enhances U.S. trade and market development activities, promotes development of human and technical resources in the participating countries, provides contacts that lead to future technical and market development projects, and promotes goodwill between the United States and the participating countries.

Although it is often difficult to place a dollar value on the benefits of the Cochran Program, several reported examples of trade successes speak to the success and value of the program to U.S. agriculture:

- o The Agricultural Affairs Office in Malaysia reports that a 1994 Malaysian participant ordered over \$300,000 worth of dried fruit and nuts from suppliers on the West Coast during his training. His

COCHRAN FELLOWSHIP PROGRAM COMPLETED TRAINING FY 1994



company continues to have regular follow-up orders since then.

- o The USA Rice Council reports that Cochran-funded training in rice processing directly influenced Cote d'Ivoire rice processors to purchase over 125,000 tons of U.S. brown rice since 1989, the value of which is over \$12 million; the Dairy

Marketing Board reports that a Cote d'Ivoire participant initiated the purchase, in 1994, of 15,000 metric tons of dried milk after his Cochran training program.

- o The Agricultural Affairs Office in Thailand reports that Cochran training finalized the sale of over \$4 million worth of American Brahma cattle, from seven states, to Thailand in 1993, and Cochran-trained participants have helped increase exports of U.S. hides and skins to Thailand over the past two years.

- o A Hong Kong supermarket owner reported that he purchased at least 10 containers of high value U.S. products after his 1993 training, and continues to be regular customer. According to a representative of the Western United States Agricultural Trade Association (WUSATA), another Cochran-funded supermarket owner from Hong Kong purchased over \$30,000,000 worth of agricultural products from WUSATA members in 1994. He states that the Cochran Program deserves at least part of the credit for what the USDA Agricultural Trade Officer in Hong Kong reports as the "perhaps the most outstanding trade success of the decade."

- o One Polish businessman reported recently that he had purchased over \$2.1 million worth of poultry products from Georgia in 1993 and through July 1994; another Polish

businessman states that his company purchased \$5.5 million worth of U.S. corn after his training. Both give credit to their Cochran programs, which provided technical training and established contacts with U.S. businesses. The Holstein Association reports that 14 Holstein bulls, valued at about \$150,000, were purchased by former Polish Cochran participants in 1993.

- o A Russian chocolate manufacturer reports purchasing \$750,000 worth of U.S. almonds after meeting with the U.S. supplier during his Cochran confectionery and baking training program.

- o The Agricultural Trade Office (ATO) in Guangzhou, China reports that the company of a 1993 Cochran participant recently opened two supermarkets and two quick service restaurants. "His firm imports increasing amounts of U.S. chicken franks as well as purchases of U.S. potato products and Washington State Apples. In addition, he is working with the ATO/Guangzhou to conduct a U.S. food promotion in the restaurants of a hotel owned by his company as well as in the two quick serve restaurants....There is little doubt that without having first participated in the Cochran Program, few of these benefits would have been realized."

- o The Agricultural Affairs Office in Korea states..."the program is an invaluable

resource. Dollar for dollar, the program provides one of the most cost effective and practical methods available to expand U.S. agricultural exports to Korea, both in the short-term and long-term. Benefits that have resulted from Cochran-funded training in FY94 include a trip initiated by the Republic of Korea's (ROK) decision to implement the "green card" system. This system would have required shipments of grain and horticultural products to include information on pesticide use on the shipment from the production stage through the entire distribution stage, a requirement that is physically impossible to meet. Cochran-funded training for relevant ROK officials went a long ways in helping to minimize the potential impact on U.S. exports."

Professional Development

The Professional Development Program (PDP) designs and manages a wide array of training and education programs for international participants in agriculture, agribusiness, rural development and related fields. In collaboration with other USDA agencies, the land-grant university system, private sector firms and training institutions, PDP offers quality programs and the requisite support services that meet the needs of the developing and more advanced countries. Staff members also work closely with the Economic

Research Service (ERS), the Agricultural Marketing Service (AMS), the Soil Conservation Service (SCS), the Forest Service (FS) and other USDA agencies to provide logistical services in support of individuals and groups of trainees from Eastern Europe, the New Independent States (NIS) and other regions of the world coming to the United States for short-term specialized training.

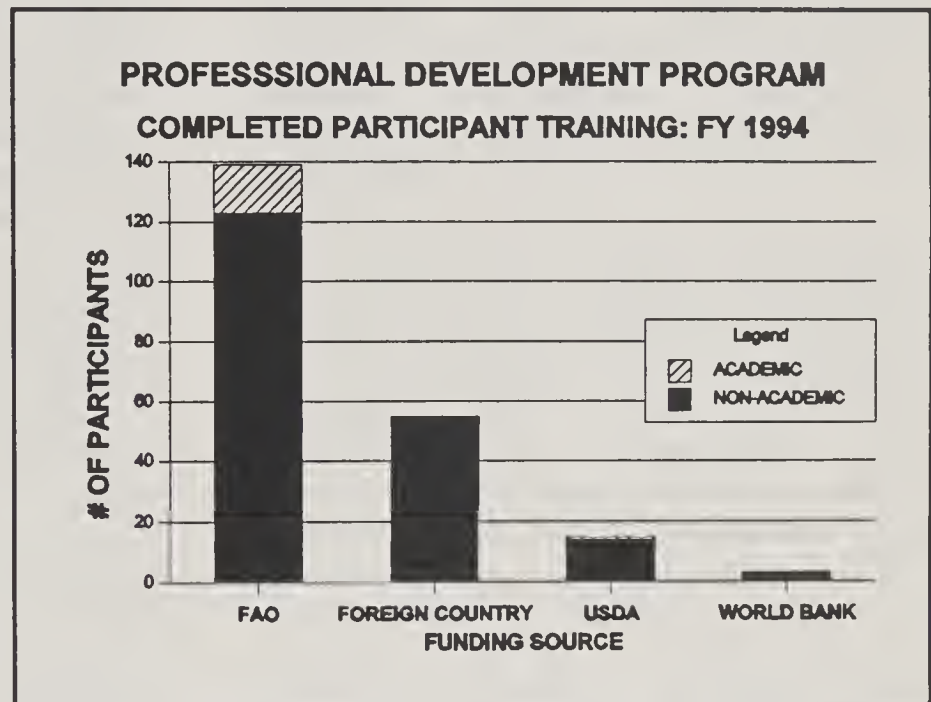
During FY 94, 212 participants from Central and South America, Eastern Europe, the New Independent States, Africa, the Middle East, and Asia completed training. Of this total, 195 non-academic programs were completed during the fiscal year (Appendix E). Programs ranged from placement of a Nepalese at a land-grant university to pursue a Masters degree in Forest Resource Management, to a specially designed program with USDA's Economic Research Service for two officials from the Chinese Regional Food and Agricultural Statistics Center on the use of agricultural census data in government research and policy analysis, to a three-week study tour in animal nutrition, feed mills and feed lot management for two Turkish officials. Sponsoring organizations included the Food and Agriculture Organization of the United Nations, the World Bank, the Bangladesh Agricultural Research Council, the Saudi Arabian Agricultural and Water (AGWAT) Project, other country

governments and the Foreign Agricultural Service (FAS) Emerging Democracies Program.

In FY94 PDP continued to design and conduct activities at the request of the Agricultural Attaché serving Nicaragua which were designed to assist the Nicaraguan poultry and cattle industries and also benefit U.S. agriculture by developing marketing channels for sales to Nicaragua of equipment, supplies, feed, and germplasm for use in artificial insemination and embryo transfer. Included in these activities were two short-term training programs presented in Nicaragua. A poultry science team from the University of Georgia conducted training for Nicaraguan poultry industry representatives, farmers and students from the Universidad de Centro America and a team from Mississippi State University conducted technical training for representatives of the Nicaraguan livestock industry, farmers, ranchers and university students.

Two continuing agreements funded by USAID focus on the development of human resource capacity in both the public and private sectors. The Field Technical Advisors agreement provides technical assistance to USAID Washington and USAID

Missions in Eastern Europe, New Independent States, Asia, Africa, Latin America and Near East, host country governments, public and private organizations and universities involved in training USAID-sponsored students in agriculture, agribusiness,



rural development, and related areas. Increasing emphasis is being placed on program evaluation and initiation of follow-on activities which can maximize the investments in training of participants. Ways to develop networks with current and former participants through INTERNET are being explored. Such international networks will facilitate communication, provide research data and help maintain mutually beneficial relationships with similar U.S. organizations and associations. This agreement also provides programmatic support to the USAID Europe/New

Independent Bureau with their education and training activities in the Newly Independent States.

The USAID/Africa Human Resources Development Assistance and African Training for Leadership and Advanced Skills agreement provides technical assistance to USAID African Missions and to U.S. and African training programmers and providers. This includes assistance in training needs assessments in agriculture, agribusiness and related areas and identification of education and training programs to meet these needs. Emphasis is placed on enhancing the essential relationships between the public and private sector that are necessary for establishing effective and efficient food and fiber systems essential to the viability of agribusinesses and sustained economic development.

In FY94, PDP conducted two regional workshops in Cote d'Ivoire and Uganda and one national workshop in Madagascar on Agribusiness Strategic Planning and Development; and a regional workshop in Zambia on Agro-industrial Marketing. Agribusiness experts from the Foreign Agricultural Service, land-grant universities and the private sector designed and facilitated the workshops. Local collaborators included the FAS Agricultural Affairs Offices, the African Development Bank, U.S. trade

association representatives, financial cooperatives and NGOs. One hundred and thirty African entrepreneurs and public sector managers representing eighteen countries attended these workshops. The goal of these workshops was to expand the managerial capacity of small to medium-size informal sector agricultural firms to enable them to nurture their businesses towards a growing, continent-wide, formal business sector.

As a result of these workshops, the Southern Africa Regional Herbs and Spices Association was created; the business planning and networking have resulted in immediate and potential trade and marketing impact; and USAID Missions have begun to replicate the workshops in country projects.

Late in FY94, funding was received from USAID to initiate a Faculty Exchange Program (FEP) with selected universities and institutes in Russia, Ukraine and Kazakhstan. This training focuses on selected faculty from targeted universities who have expressed a desire to change their educational programs, curricula and course content in support of sustained movement towards a free market economy. Training emphasis is on faculty strengthening, educational program/curriculum development and revision in the areas of agricultural economics, agribusiness and agrarian law. Selections will be made and

training programs in collaboration with land-grant universities and agribusinesses will begin in FY95.

Venezuela - United States Agricultural Commission

The Ministerial level Venezuela - United States Agricultural Commission met once during FY 1994, in Venezuela in November 1993. Principal recommendations dealt with enhancing Venezuelan agricultural research and extension systems, improving animal and plant health inspection and quarantine systems, strengthening agricultural marketing and economic information systems, and improving management of the country's renewable natural resources (including irrigation rehabilitation, soil conservation and forest management).

The Commission facilitated mutual visits involving New Mexico State University and a Venezuelan private agricultural research and extension foundation (FUSAGRI) to explore potential collaboration on agricultural extension education. Planning is underway for a U.S. study visit by university and Ministry of Agriculture officials to examine the linkages among U.S. agricultural research, education and extension institutions. The Commission also facilitated communication between USDA and Ministry of

Agriculture and Livestock (MAC) officials to plan U.S. agricultural training assistance to MAC under new World Bank and Inter-American Development Bank agricultural sector development projects.

Upon recommendation of the Commission, a U.S.-Venezuelan seminar on plant quarantine research and sweet potato whitefly control took place in Maracay in November 1993 and 2 seminars on management and organizations of agricultural cooperatives were conducted by a USDA Agricultural Cooperatives Service economist in Venezuela, also in November 1993.

U.S. scientists are benefitting through Commission-recommended scientific collaboration. For example, in November 1993 an international symposium on mercury contamination in mining areas (including deforested tropical areas) was organized by Venezuelan scientists and a U.S. Forest Service specialist now residing in Eastern Venezuela (under Commission auspices). Biological pest control research on sweet potato white fly control in Venezuela is promising for U.S. collaborators.

During 1994, TIP evaluated results of the Commission-recommended U.S. Agribusiness Opportunity Mission to Venezuela in 1991. Several successful trade and joint venture relationships were established. One success

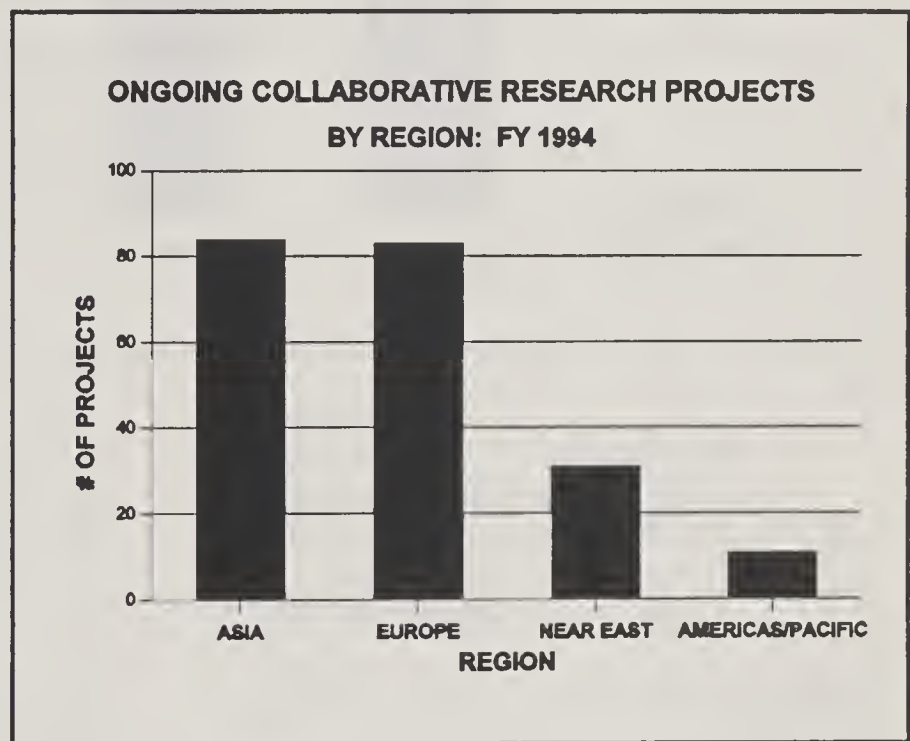
story, involving a Venezuelan tropical fruit processor and a U.S. supplier of technical expertise and fruit processing equipment, was featured in a seminar during the Caracas meeting of the International Agribusiness Management Association in May 1994.

USDA Agricultural Marketing Service experts continue working with the Ministry of Agriculture and Livestock (MAC) and Venezuelan industry representatives on development of internationally-recognized grades and standards for meat products and livestock in Venezuela and to assist in the establishment of a market information system for livestock and meat. Such standards and market information system could potentially benefit U.S. cattle and meat exporters who wish to enter Venezuela's premium quality niche markets. Venezuela could also lead the way for other Andean Pact nations to adopt such standards.

RESEARCH AND SCIENTIFIC EXCHANGES

The Research and Scientific Exchanges Division (RSED) seeks new knowledge and technology beneficial to the United States and cooperating countries through collaborative research and scientific exchanges on a broad range of subjects in

agriculture and forestry. Short-term visits between U.S. and foreign scientists are supported to acquire scientific or agroeconomic data, special research techniques, unique resources such as germplasm or biological control organisms not available in the United States, and to consult or conduct field work on significant problems facing U.S. agriculture. Through long-term projects, the Division supports collaboration between U.S. researchers and their international counterparts on high priority problems. Some of the research



is carried out by investigators in foreign laboratories. Other projects are conducted jointly by scientists in the U.S. and cooperating laboratories overseas.

RSED helps scientists from the

U.S. Department of Agriculture, university community and private non-profit research organizations seek new knowledge and technology beneficial to the United States and cooperating countries by providing access to international research in agriculture and forestry.

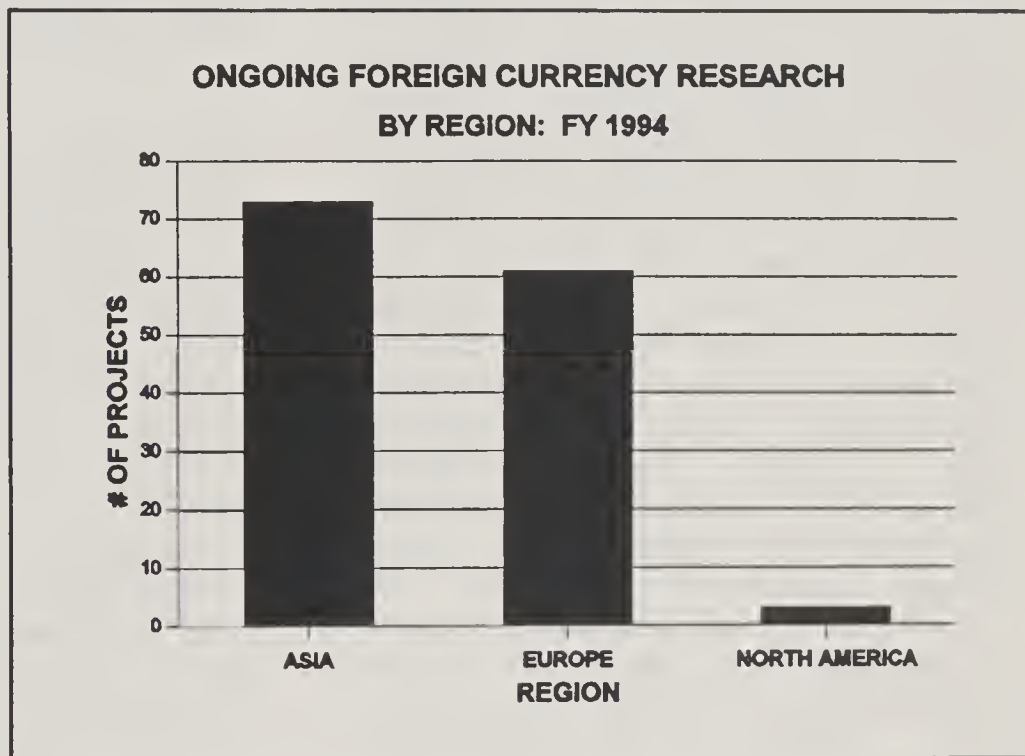
R S E D ' s international research and exchange programs provide:

- o Access to plant, animal and microbial germplasm and genetic resources.
- o Access to biological control organisms.
- o Research collaboration with foreign scientists through U.S. State Department programs in Central and Eastern Europe.
- o Funds for research on plant and animal disease or pest problems that have their origins in foreign countries, allowing control technologies to be developed before the problems arrive in the United States.

- o Access to resources and/or expertise not available in the U.S.

Activities encompass the following program areas:

1. Foreign Currency Research
2. International Collaborative



- Research
3. Scientific Exchanges
 4. Reimbursable Programs
 5. International Agricultural Research Centers
 6. Binational Programs

In FY94, the Division managed 209 collaborative research projects in 22 countries on a wide array of topics (Appendix F). This included 137 projects in ten countries utilizing foreign currencies (Appendix G). Scientific exchange teams visited 33 countries during the same period (Appendix H).

Foreign Currency Research

RSED uses U.S.-owned foreign currencies to support cooperative research on problems of interest to the United States and the participating foreign country. Since the programs inception in 1958, over 2400 research projects have been carried out in 39 countries.

local currencies are used to support research conducted in overseas laboratories. Currently, the FCR program has 84 active research projects in India, Poland, and Taiwan with a value of 7.5 million dollars. Research topics of mutual interest include: dryland/sustainable agricultural systems, biological control, germplasm, animal science, aquaculture, food technology, forestry, and agro-environmental problems. Approximately 75 USDA, U.S. university, and private sector scientists participate in the FCR program.

Accomplishments & Examples of Recent Progress

The combined effects of two newly established mites in honey bee colonies and the recent entrance of the Africanized honey bee into the United States, has spurred interest in the development of solitary bees as crop pollinators. Biological information is essential to develop management systems for large populations of new bee

species selected for the commercial crop environment. Cooperative work on this topic focuses on the biology of a number of crop pollinators unique to Asian nations.

The gypsy moth (Porthetria dispar) continues to wreak havoc in the hardwood forests of the North East and Mid-Atlantic regions of the United States. Several USDA and state government agencies are taking a fresh look at using natural enemies of the Asian gypsy moth as biocontrol agents in the United States. Such predators would complement other components of existing integrated pest management programs for gypsy moth control. During this first year, ten shipments consisting of several hundred insect predators were received to re-start or re-stock colonies in the U.S. Work on previously overlooked or less well understood predators to the gypsy moth will begin next year.

Health-conscious consumers are increasingly concerned about the long-term effects of pesticide/drug residues found in meat and poultry from their local supermarkets. A recent study in Taiwan has provided additional information that will assist EPA and USDA in understanding the behavior of chlorinated pesticides in animal tissue after processing.

The Foreign Currency Research Program has provided access to

natural enemies of the sweet potato whitefly, *Bemisia tabaci* (SPWF), a major agricultural pest worldwide. Recently SPWF has inflicted devastating losses in agriculture in Florida, California, Arizona, Texas and elsewhere in the United States. In certain areas it has reduced melon production by over 80% and now severely threatens production of cotton and virtually every winter vegetable. In addition to losses caused directly by its feeding, the sweet potato whitefly also is an important vector of plant disease, particularly viruses.

The center of origin of SPWF - and its natural enemies - is thought to be the Indian subcontinent. RSED made it possible for USDA specialists to make field observations on the natural enemies of SPWF throughout the Indian subcontinent, and to collect and ship to U.S. cooperators several pathogens and parasitoids of SPWF. The collections of parasitic insects and pathogenic fungi in the Indian subcontinent were among the most productive so far.

Joint Board (JB) Research Program

Funding has been made available to USDA through bilateral agreements initiated by the U.S. Department of State in support of Joint Board (JB) programs in eight countries. Currently, there are 46 active

research grants in the agricultural sciences in Hungary, Poland, Estonia, the Czech and Slovak Republics, Serbia, Slovenia, and Croatia. The value of these projects is over \$3.5 million. More than 60 U.S. scientists in federal, state, and university laboratories participate with foreign scientists in undertaking research covering a wide spectrum of topics of mutual concern, including: agro-environmental problems, food safety, biological control, aquaculture, forestry, and germplasm.

Accomplishments and Examples of Recent Progress

Hungary - The U.S. sour cherry industry is a monoculture of one 400-year-old variety, a cultivar highly susceptible to diseases. Hungarian researchers are cooperating with scientists from the United States to analyze samples of germplasm from Hungarian sour cherry trees to identify disease resistance.

Hungary and eastern Europe remain the center of diversity for sour cherry where resistance to disease has evolved as part of that species' mode of survival. A huge diversity of sour cherry germplasm exists, mostly as backyard or roadside trees in villages.

Several of these resistant sources of germplasm already have been identified and

hybridized with commercially important cultivars. The germplasm is shared with Michigan State University which conducts the only sour cherry breeding program in the United States. Their use will benefit U.S. and Hungarian fruit producers, rural communities and consumers by reducing chemical sprays into the environment and the potential chemical residue problem.

Other Hungarian scientists are making excellent progress in elucidating the pheromone system of the cabbage armyworm moth, (Mamestra brassicae). The cabbage armyworm is a serious pest of several important crops in western and central Europe. APHIS considers the cabbage armyworm a primary pest because of the distinct possibility it may be introduced into the United States through the cut flower trade. There is a high probability the Hungarian scientists will find an attractant with applications that directly benefit European and American agriculture.

Polish and American scientists are cooperating in studies of the use of immunostimulants to help prevent diseases in fish culture. They have established that several drugs and feed additives aid in the protection fish against diseases. Supplementing fish diets with these additives will reduce losses from diseases and have significant economic benefits.

INTERNATIONAL COLLABORATIVE RESEARCH

The International Collaborative Research Program was established in 1982 to enable U.S. scientists to conduct joint research on high priority U.S. agricultural problems with researchers in developed and developing countries. The program supports high-priority research with many nations.

Since its inception, this program has supported the direct costs of U.S. institutions for 92 projects in 28 countries. Although it has supported projects in many areas of agriculture, current emphases are on research to help solve U.S. problems with trade barriers, the control of exotic diseases and pests, new uses for agricultural and forestry products, food safety, and water and soil quality.

Accomplishments and Examples of Recent Progress

Detection of Plum Pox Virus in Stone Fruits of Low Virus Titer. USDA researchers in Beltsville, Maryland are responding to the U.S. need to detect the plum pox virus in budwood of stone fruits. The virus -- a devastating disease of plums, peaches, and apricots -- has already caused severe losses in Europe. Success of cooperative research with Hungary will provide APHIS with

an excellent, rapid and reliable testing method for detection of the virus in budwood. This method also could be used for testing the existing U.S. germplasm for infection with the stone fruit virus.

Biological Control of Insect Pests. Research on how beneficial insects find their prey resulted in a major breakthrough in understanding the foraging behaviors of parasitic wasps, and demonstrated that parasites can be conditioned to seek out host insects on specific crops.

RSED's International Collaborative Research Program enabled scientists from ARS and the Universities of Georgia and Florida to cooperate closely with Dutch and French researchers. The use of insect parasitoids with other sound management practices benefits us all when they reduce the use of chemical insecticides and relieve associated problems of environmental pollution, possible food contamination and development of chemical resistance by the pests.

Heliothis species, such as the corn ear worm and the fall army worm cause annual damage of over \$1 billion on crops including corn, cotton, soybean, and certain vegetables. Understanding the behaviors and impact of parasites - such as *Trichogramma* which attack the eggs, and *Microplitis* which

attack the larvae of these pests - may enable scientists to apply the research results in developing more effective and environmentally sound pest management practices.

SCIENTIFIC EXCHANGE PROGRAM

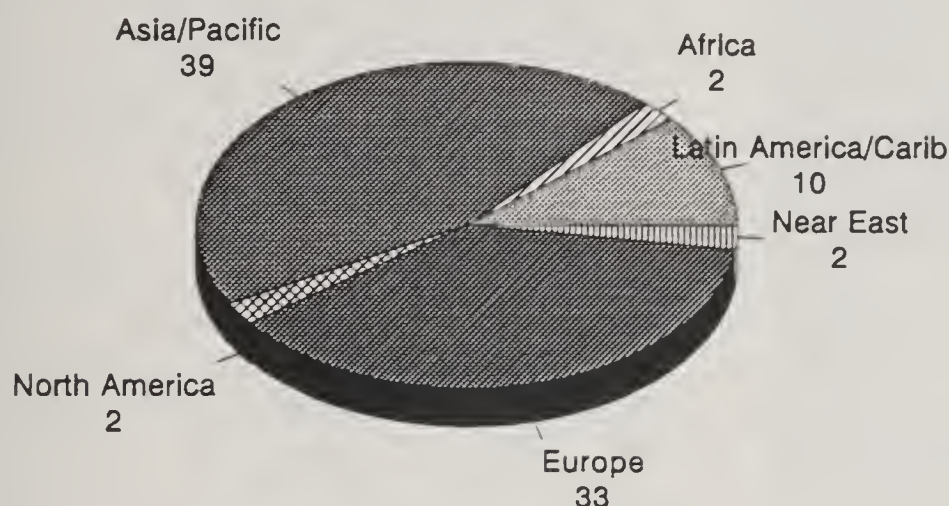
The Scientific Exchange Program promotes international cooperation to attain mutual benefits through short-term exchange visits (one to six weeks) between U.S. and foreign scientists. These exchanges help transfer agricultural data, technology, exotic germplasm, and biological materials invaluable in research to improve crops, forestry and livestock.

Proposals are accepted from U.S. scientists and specialists for exchanges with any country where benefits to U.S. agriculture may accrue.

Accomplishments and Examples of Recent Progress

Turkey. A citrus disease expert at the University of California, Riverside has begun work with counterparts at the University of Cukurova, Turkey on "Gummy Bark" disease and other viral infections of sweet oranges. Gummy Bark disease is presently not known to occur in the United States but has the potential to greatly reduce orange production. No laboratory technique for rapid detection of its causal agent is currently available. Rapid

U.S. SCIENTIFIC EXCHANGE TEAM VISITS FY 1994



detection techniques being developed should make possible the exchange of citrus germplasm from Gummy Bark-infected areas. Turkey is a major source of citrus germplasm for varietal improvement and disease resistance.

Norway. The Pine Shoot Beetle, Tomicus piniperda, a serious pest of coniferous trees, poses a threat to the United States' multi-million dollar Christmas tree industry. First discovered in the U.S. in 1991, the Pine Shoot Beetle caused APHIS to quarantine portions of six states: Illinois, Indiana, Ohio, Michigan, New York and Pennsylvania. APHIS had planned to implement a trapping strategy to detect and monitor the Pine Shoot Beetle.

RSED provided for Scandinavian

experts to share their knowledge and experience in dealing with the insect. They suggested alternative detection methods, thereby saving USDA several hundred thousand dollars.

Sweden. Dr. Michael J. Weiss, North Dakota State University, obtained and exchanged information on insect management strategies for

canola during visits with colleagues at the Swedish University of Agricultural Sciences, Uppsala and Svalöf-Weibull Seed Co. He also visited canola insect experts at the University of Helsinki, Finland and the Scottish Agricultural College, Edinburgh.

Demand for edible oilseed rape oil (canola) in the U.S. is currently about 1 billion pounds and is expected to increase. For U.S. producers to meet domestic demand, we need more expertise in producing the crop. Europeans have many more years experience with oilseed rape than the U.S. and thus are ahead of us in developing insect management practices for this crop's associated pests. Dr. Weiss' hosts shared their experiences,

enabling him to acquire several techniques which will increase the productivity of U.S. research on integrated pest management for oilseed pests. He also obtained information on the ecology of ground beetles as predators of insect pests -- a field in which the Europeans are far ahead of us.

Taiwan. Two researchers from the University of Arkansas at Pine Bluff (UAPB) recently visited the Asian Vegetable Research and Development Center (AVRDC) in Taiwan to look at tomato breeding programs, biocontrol agents and production technology. The trip resulted in establishing linkages between the two institutions, and UAPB will be participating in tropical tomato variety trials sponsored by AVRDC. The objectives of the breeding program are to develop varieties that are heat tolerant and have resistance to soil borne bacterial wilt. AVRDC has an Integrated Pest Management (IPM) program to control the diamondback moth by releasing parasites. Scientists have found four parasites which have proven effective in controlling the diamondback moth in Asia. These parasites have potential to control the moth which is a pest of greens in south Arkansas. Many of the vegetable production technologies have application for small farm enterprises in Arkansas. UAPB proposes to organize a tour of vegetable culture technologies in Taiwan

for Arkansas farmers.

The field trials will be incorporated into the on-going UAPB tomato project. These tropical tomato varieties may be better suited for planting conditions in Arkansas during July and August. Asian seed companies now sell heat tolerant tomato varieties which could be bred into the current lines used in Arkansas. Growing late season tomatoes offers Arkansas growers a unique local market opportunity. Increased profits are possible due to minimal storage and transportation costs when competing with the national supermarket chains. Experiences during the current trials indicate that current commercial varieties are not well suited for planting during the hot summer months. Tomato plant mortality is over 50% due to plant diseases and high temperatures.

Central Asia. A USDA-State Department team successfully accomplished its mission of developing a framework for conducting collaborative research and initiating several specific agreements with agricultural research institutes in Kazakhstan and Kyrgyzstan. Specialists from USDA's Agricultural Research Service and Foreign Agricultural Service (ICD/RSED) and the Department of State's Office of Cooperative Science and Technology Programs reviewed current agriculture and forestry programs and

identified areas of mutual interest.

The team negotiated 25 specific technical cooperative agreements of benefit to U.S. agriculture in Kazakhstan and Kyrgyzstan. The Departments are providing over \$175,000 to support the joint research efforts covering value-added specialty products, biological control of insect and weed pests, soil and water conservation, and plant and animal germplasm.

People's Republic of China.
The U.S. Department of Agriculture has had a cooperative scientific and technical exchange program with the People's Republic of China since 1978. The program has coordinated the exchange of approximately nine hundred American and Chinese scientists and specialists, and directly benefits American agriculture through the exchange of plant germplasm, biological control materials, agricultural data, and technical expertise.

The agriculture protocol has the longest history of the 29 protocols signed between U.S. government agencies and the People's Republic of China, and continues to remain the most active, productive, and successful. USDA cooperates with the Chinese Ministries of Agriculture, Forestry, Water Resources, and Internal Trade.

U.S. germplasm collections of cucumber and watermelon were

expanded in 1994 through a scientific exchange visit to China sponsored by FAS/ICD to collect and evaluate watermelon, cucumber, melon and luffa gourd germplasm. The team, representing North Carolina State University, Clemson University and USDA/ARS, returned from China with 148 accessions of watermelon, cucumber, melon and luffa gourd. Prior to the team's visit in July, germplasm accessions from China (a secondary center of diversity for cucumber) represented less than two percent of the melon and ten percent of the cucumber accessions in USDA collections.

A three-year collaborative research project between Clemson University and China, also funded by FAS/ICD, has benefited immensely from the utilization of Chinese germplasm to introduce male sterility in watermelon breeding programs for hybrid production. Ultimately, male steriles may reduce significantly the cost of seedless triploid production.

Melon traits from Chinese germplasm will be used for breeding programs to improve fruit keeping ability in storage. The Chinese germplasm also may be used to improve stress resistance and thereby reduce production costs. Recently a Chinese accession was used to work out inheritance of salt tolerance. Some cucumber traits may be useful in increasing resistance

to several mosaic viruses.

A team of four landscape horticulturists representing the National Arboretum, Morton Arboretum of Illinois, Holden Arboretum of Ohio, and Morris Arboretum of Pennsylvania returned in October from a successful germplasm collection trip in China. Working with scientists at the Beijing Botanical Garden, the American team was able to collect and export 135 accessions of landscape plants, as well as some live plants and herbarium specimens of lignaceous species, during their three-week visit. The U.S. National Arboretum's Woody Plant Germplasm Repository staff will develop and maintain appropriate collections for research by scientists at arboreta, universities and plant nurseries.

The loss of wild progenitors in China due to increased land clearing, urbanization and industrial development prompted the USDA Crop Advisory Committee for Woody Landscape Plants to identify China as a priority region for germplasm collection. Additional germplasm will increase both genetic diversity and disease resistance of tree and shrub ornamentals utilized in commercial and residential landscapes in the United States. Many landscape plants used today originated from China; however, some of these ornamentals were developed from a very narrow genetic base,

even from a single plant or a small seed population collected many years previously.

Collection of biological control agents in China has continued very successfully. Important biological control materials for agricultural and forest pests such as Asian gypsy moth and Oriental fruit fly, as well as aquatic and rangeland weeds, have been secured.

The Soil Conservation Service and the Chinese Grasslands Research Institute entered their sixth year of collaboration on the development of vegetative technology for the restoration and protection of their cool season, semi-arid and arid grazing lands. Discussions are underway to include Mongolia and Kazakhstan in the project.

Reimbursable Programs

RSED manages projects funded by the U.S. Agency for International Development and/or the World Bank in Egypt, India, Thailand, Kazakhstan, Ukraine and Eastern Europe.

Egypt's National Agriculture Research Project (NARP). RSED has an agreement with USAID/Cairo to work on the Collaborative Research component of Egypt's National Agriculture Research Project (NARP). Currently there are 28 research projects, with research being conducted in both the U.S. and Egypt on

integrated pest management, remote sensing, animal health, computer expert systems, genetic engineering, food consumption patterns and post-harvest technology. Funding averages \$600,000 per project.

India Plant Genetic Resources. The India Plant Genetic Resources (PGR) project began in February 1990 and is scheduled to continue until August 1996. Its goal is to strengthen the Indian National Bureau of Plant Genetic Resources. At the end of the project NBPGR is to have in place the organizational structure, trained technical staff, physical facilities and equipment to manage, with its supporting institutions, a national system which sustains all aspects of exploration, collection, preservation, evaluation, quarantine, documentation, and exchange of plant germplasm.

In the past four years, 94 Indian scientists have participated in 12-week professional development and 3-week study tour programs for a total of 142 weeks of training in ARS, APHIS, and U.S. university laboratories.

There have been three successful joint field explorations, two in the U.S. for wild sunflower and jojoba, and one in India for Cucumis. The 1992 Cucumis exploration made 639 collections of various Cucumis species (176 cucumbers and 406 melons) plus 57

accessions of other economically important crop species. This expedition increased the U.S. national cucumber and melon collections by approximately 20%. It quadrupled the Indian national cucumber collection and formed the foundation for the Indian melon collection.

In 1995 ARS and APHIS will provide in-country technical assistance in plant quarantine, cryopreservation, molecular biology and Crop Advisory Committees.

Thailand - The Agriculture Technology Transfer Project. This project, which ended in 1994, provided technical assistance and professional enhancement sponsored by USAID. Subprojects included livestock management (including disease control), aquaculture, new fish product development, biological control of plant pests and diseases, post-harvest fruit and vegetable quality improvement, and development of other horticultural commodities. The project provided consultancies for U.S. scientists to give advice on research in Thailand, and specialized study tours in the U.S. for Thai participants. The cooperation was so successful that the U.S. scientists sought out other sources of funding to continue collaboration with the Royal Thai Government.

USDA Agricultural Policy Advisors to Kazakhstan and

Ukraine. At the request of the ministries of agriculture of Kazakhstan and Ukraine, FAS/ICD/RSED placed agricultural policy advisors in these countries. The policy advisors assist their host countries in the transition from a socialist economy to a market economy. They advise the host country minister of agriculture, ministers of other government departments involved with food and agriculture, members of parliament and other policy makers on policy alternatives and their consequences. They also are responsible for promoting policy initiatives that support democracy and free-market entrepreneurship.

The agricultural policy advisors in Ukraine and Kazakhstan are assisting in the creation of a policy environment conducive to democratically-oriented, privately-owned free enterprise in the food and agriculture sector. This includes developing, interpreting, and modifying public policies; providing advice to key officials on requirements for success and impacts of new policies; informing appropriate U.S. Government and other officials of policy shifts and of needs to influence policy makers. Their decisions, advice and recommendations have a significant effect on host-country economic development, as well as on the programs and initiatives of USDA and other U.S. agencies.

Central and Eastern Europe - Support for Eastern European Democracies (SEED) Act. The focus for RSED's SEED projects is to introduce current technologies of environmentally sustainable agricultural management practices to Central and Eastern European countries. This program has been designed to reduce the environmental effects of pollution from past centralized industrial, mining, and agricultural activities while supporting the economic development of these countries in transition. Additionally, the program is providing policy support to ensure that agricultural practices are conducted efficiently and sustainably.

Heavy Metal Soil and Water Contamination in Bulgaria. The Bulgarian Minister of Agriculture requested RSED to send a team to examine the arsenic contamination of irrigation water in the Topolnitzza Reservoir. As a result, USDA and Bulgarian scientists from the Ministries of Agriculture, Health, and Environment developed the scientific basis for the Government of Bulgaria to address the concern of arsenic toxicity in rice grown in the Topolnitzza irrigation district--at a great savings for Bulgaria.

Two components of follow on activities currently are underway. The first component focuses on remediation of heavy metal toxicity problems

associated with lead smelters near the industrial cities of Plovdiv and Kardzali. The second focuses on laboratory methodology to assure the scientific integrity of laboratory analysis and environmental sampling.

Integrated Pest Management of Orchards - Romania, Poland, Hungary, and Czech Republic. This program provide technical assistance, training, and equipment to address agricultural management practices that impact water quality, specifically integrated pest management (IPM) in apple orchards. Technologies are being demonstrated on both private and state farms near the areas where the technologies are being tested. There has been an excellent response from local growers interested in reducing inputs and improving fruit quality.

Point Source and Non Point Source Water Quality - Bulgaria. This program evaluates ground and surface water contaminated by agricultural sources, especially point source pollution caused by concentrated livestock operations. Activities include demonstration of appropriate technologies and management practices, monitoring and evaluation of sources of groundwater contamination, and development of information support systems to manage and regulate agriculturally based

pollution.

Emerging Democracies Baltics Program. In 1990 Congress passed legislation which included a mandate to share U.S. expertise in food and agribusiness with formerly socialist nations, such as Lithuania, Latvia, and Estonia, that are establishing democratic reforms and market economies. The goal is to develop or expand markets for U.S. agricultural goods and services. Activities to fulfil this mandate have included sponsorship of agriculture and business specialists for study tours throughout the United States. RSED also has sent specialists to the Baltics to assess or start related projects. Research areas include: health and management of dairy and poultry, dairy cattle genetics, livestock feeds, germplasm trials in forage and grain, and land use planning.

1994 activities expanded to include the placement of a resident advisor in Latvia, training for extension service agents, and extended efforts to promote informational exchanges through CD-ROM technology and the distribution of journals and related materials.

USDA's Middle East Regional Cooperation (MERC) Program, formerly known as the trinational programs. This program promotes agricultural cooperation among the United States, Israel, and her Arab

neighbors and accelerates agricultural development in participating Middle Eastern nations. MERC projects are funded by USAID's Middle East Regional Cooperation Program to promote the Middle East Peace Process. Current USDA activities include development of rapid diagnostic techniques for major diseases of livestock with Egypt, Israel, and the Palestinians of the Occupied Territories, Gaza and Jericho.

Since its inception in 1990, the Trinational Animal Health Research Project (TAHRP) has provided channels for timely exchange of information between Egypt and Israel on the region's livestock disease outbreaks and control measures being taken. In addition to intensive field and laboratory research on three major animal diseases, TAHRP has sponsored four animal health symposia, the most recent of which was conducted under the umbrella of the Middle East Peace Process.

Japanese Beetle Suppression Program (Azores). A combined suppression/research program to control the Japanese Beetle in the Azores is being implemented under this project. Participants include USDA (FAS/ICD, ARS, and APHIS); the Department of Defense (DOD); the Department of State; the Department of Agriculture of the Regional Government of the Azores (RGA), and the University of the Azores.

The objective of the Japanese Beetle Suppression project is for the RGA to establish and implement a Japanese beetle suppression program with advice and technical support from USDA. Funds for the project were provided by DOD. Over the long term, Japanese beetle suppression on Terceira would be accomplished through establishment of biological control agents of Japanese beetle on the island.

The project has met with success in identification, production, and establishment of efficacious biological control agents of the beetle on Terceira. A field laboratory for biocontrol production, introduction and monitoring has been established and equipped on Terceira. A well-qualified local scientist and laboratory staff have been trained.

DOD provided additional funding for the project through FY95. USDA and other experts will continue their involvement through consultant visits. By 1995, parasitic insects and nematodes of Japanese beetle should be established and increasing on Terceira. Over the next few years, this should lead to dramatic reductions in beetle populations on the island.

U.S. - Spain Agricultural Fellows Program. The Spanish Agricultural Fellows Program, is funded by the Spanish Ministry of Agriculture through RSED. The Program provides opportunities for Spanish

agricultural scientists to gain research experience in U.S. universities and laboratories. It also helps the United States and Spain maintain and strengthen collaborative ties between their research communities. The program currently supports forty Spanish Master's and Ph.D. students and post-doctoral fellows in agricultural and biological science programs at twenty-five U.S. universities. RSED assists the fellows with university and advisor selection, facilitates the university application process, and provides administrative and program support for the fellows in the United States.

International Agricultural Research Centers

RSED supports increased U.S. involvement with the International Agricultural Research Centers (IARCs) of the Consultative Group on International Agricultural Research (CGIAR).

USAID RSSA. Three RSED employees are assigned to USAID's Research and Development Bureau to assist AID in administering its share of funds contributed to operation of the CGIAR Centers.

Scientific Liaison Officers. RSED also provides support for the U.S. Scientific Liaison Officers assigned to these Centers. The Scientific Liaison Officers provide a

coordinated approach to monitor the scientific programs of the centers, and to increase linkages between the U.S. Scientific community and the IARCs.

In 1994, 18 visits were made by Scientific Liaison Officers to the IARCs and related research sites. Three graduate students working on related research at the IARC's were supported through their IARC Linkages Program.

Pilot Linkage Program. In 1992, RSED initiated a program to foster linkages with the International Agricultural Research Centers (IARCs). Objectives include:

- o To promote long-term, mutually beneficial linkages with the IARCs and affiliated organizations
- o To further scientific collaboration by awarding research fellowships to U.S. scientists.
- o To encourage innovative approaches and strengthen scientific capability in the food and agricultural sciences.

In 1993 eight research fellowships were awarded for linkages with CIAT (3), CIMMYT (2), ICRISAT Sahelian Center, AVRDC and ICARDA. These totaled around \$200,000.

In 1994, three additional linkages were awarded to

support collaborative research:

- o Advancing understanding of plant biology using applied yield trials, Cornell University, University of Idaho and ICRISAT

- o DNA amplified fingerprinting of peanut genetic resources, Tuskegee University and ICRISAT

- o Cooperative development of statistical methods useful for agricultural research in the dry areas, University of Nebraska-Lincoln and ICARDA

RSED's 1995 Scientific Cooperation Program will include support for collaboration between USDA's Agricultural Research Service and Forest Service and CIMMYT, ICRISAT and ICRAF.

Binational Programs

U.S.-Israel Binational Agricultural Research and Development Fund. The United States and Israel set up the Binational Agricultural Research and Development Fund (BARD) to promote agricultural research on problems of mutual concern. Interest earned on a \$110 million endowment supports research that is jointly planned and conducted in both countries. Projects are principally applied research and typically last about three years. Since 1979, BARD has awarded a total of \$133 million for 687 approved projects. BARD also funds joint workshops and a postdoctoral fellowship

program for promising young U.S. and Israeli agricultural scientists.

Mexico. USDA and the Mexican Secretariat of Agriculture, Livestock and Rural Development (SAGAR) are working to strengthen scientific and technological cooperation in agriculture and forestry. Collaborative research and scientific exchange programs with Mexico are a high priority. In FY94, collaborative research projects between the U.S. and Mexico were ongoing in characterization of strains of Xanthomonas campestris in Mexico, examination of tannin content of Acacia species, conservation of forest biodiversity, identification of novel germplasm in wheat, the Caribbean fruit fly, biological control of boll weevil, integrated watershed management and bovine tuberculosis. Scientific exchanges were conducted to evaluate food safety practices in Mexico, to collect germplasm of tropical fruits (annonaceous and sapotaceous fruits) and to study conservation tillage for furrow-irrigated cropping.

Cooperative activities between the United States and Mexico will continue to have high priority. USDA and SAGAR have signed a Memorandum of Understanding for cooperation in science and technology which will facilitate collaboration.

Brazil. The U.S.-Brazil

Science and Technology Initiative provided funding for twenty successful collaborative research projects between U.S. and Brazilian researchers. RSED and ARS managed and coordinated the portfolio of projects in agriculture on topics such as the environment and plant and animal pests/diseases. Collaborative research and scientific exchanges programs with Brazil continue to have high priority.

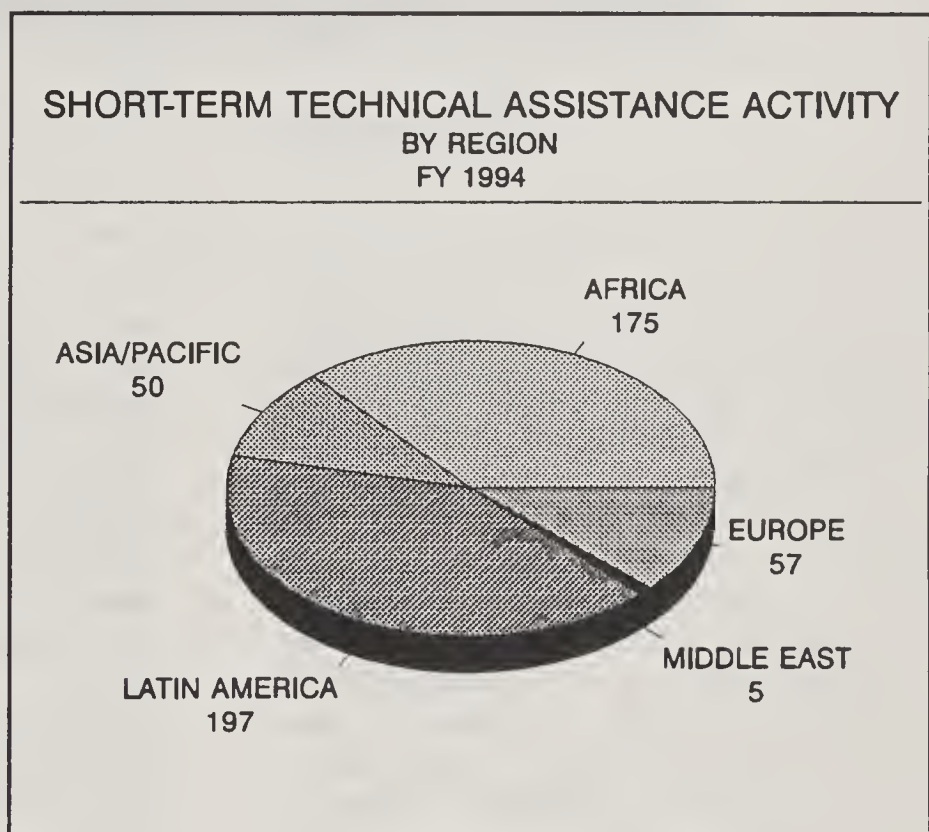
Ireland. RSED administers a multidimensional program of activities with Ireland. The purpose of the U.S.-Ireland program is to encourage the exchange of information and people between the U.S. and Ireland in agricultural science and technology and agribusiness. Program elements include scientific exchanges, collaborative research, workshops, and an Agribusiness Associates Internship Program. As major livestock and dairy producers, the U.S. and Ireland have a common interest in preventing and controlling animal diseases. Joint work has led to advances in fighting tick-borne diseases, bovine tuberculosis and paratuberculosis, and diseases that can be transmitted from animals to humans.

DEVELOPMENT RESOURCES

In FY 1994, more than 480 experts carried out short-term assignments throughout the world on the full range of agricultural development topics (Appendix I). Some examples of those activities follow.

Forestry Support Program

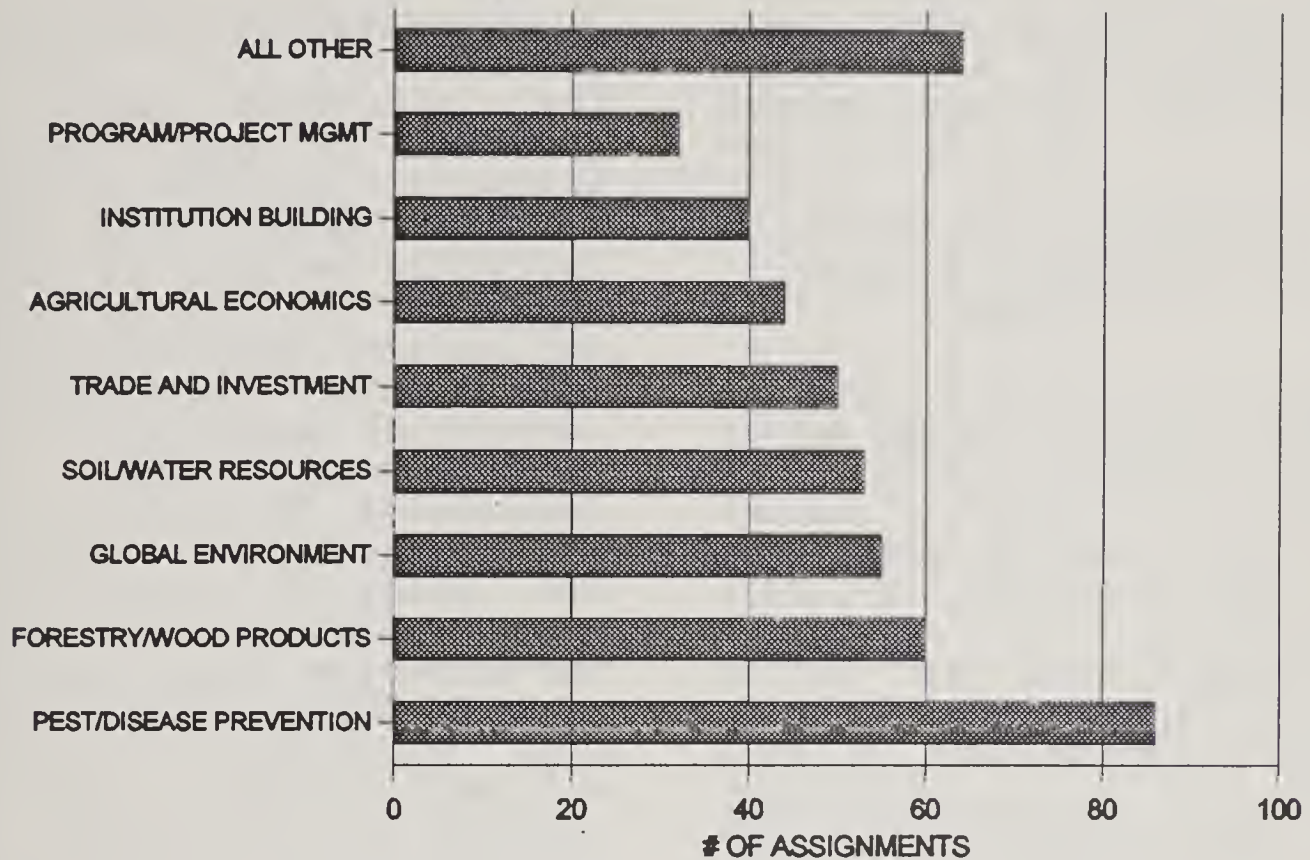
Under an agreement with the U.S. Agency for International Development (USAID), ICD and the Forest Service are implementing the Forestry Support Program (FSP), which provides technical assistance to USAID's natural resource



projects worldwide. Building on FSP's success over a period of more than 10 years, the

SHORT-TERM TECHNICAL ASSISTANCE

BY PRIMARY SUBJECT: FY 1994



agencies recently signed a new agreement to continue and expand the program. Activities involve a wide variety of collaborators (including universities and some private sector groups) to provide technical assistance, address training needs, women in development goals, link institutions, develop materials, respond to natural disasters and emergencies, and provide other services. The Program also includes activities such as strengthening urban-, socio- and agroforestry in support of

sustainable agriculture and biodiversity, participatory natural forest management, institution-building, outreach and research, collaboration with non-governmental organizations and private voluntary organizations, and support for private enterprise development as appropriate. New areas of technical assistance encompasses global climate change issues and remote sensing, including geographic information systems (GIS) and global positioning systems (GPS). The program maintains an extensive roster

of individuals with forestry and natural resources expertise available to work in international programs.

Energy and the Environment

Development Resources has entered into a Resources Support Services Agreement (RSSA) with USAID's Global Bureau to provide technical specialists in the areas of natural resources, energy, the environment and sustainability. The RSSA originated in October, 1991. Since that time USAID has requested 39 professional support positions in: Environmental training and education; environmental and natural resource economics and policy; global climate change; forestry conservation and management; energy production and conservation; biological diversity; environmental database management; and energy policy and planning.

An institutional and programmatic relationship between USDA and USAID in matters of energy and environment has been incorporated into this RSSA to insure that USDA agencies have a technical and policy input. The agreement also provides for agency RSSA staff to maintain their technical linkages, career tracks and domestic ties with their home agencies while on USAID-funded assignments. The relationship between USAID and USDA enables USDA to link international work in energy, environment and natural

resources under the RSSA to their domestic programs and clients.

Through 1994 a total of 32 people from various agencies, universities and the private sector have been assigned to work on the RSSA.

Agricultural Production Program Development and Support

This RSSA serves, and is funded by the Office of Agriculture of the Economic Growth Center, Global Bureau, USAID. Priorities of work under this activity include long-term assistance in agricultural policy and sector planning, sustainable agricultural systems, soil sciences, plant protection, as well as cutting edge technologies such as integrated pest management, biotechnology, and bioremediation. Long-term technical positions under this project have increased during the past year and are now filled by USDA experts in plant pathology, entomology, soil microbiology, natural resource management, biotechnology and biodiversity. These individuals manage USAID Projects and provide technical assistance directly to field missions.

Technical Support Agreement

Development Resources also has operating agreements with USAID's Bureaus for Africa, Asia, Latin American and the Caribbean, and Global Programs,

Field Support and Research to provide a wide range of technical services of mutual interest and benefit to USDA and USAID. Under USAID reorganization plans for FY 95 these agreements will continue but a majority of the staff from USDA will be part of the new Bureau for Global Programs, Field Support and Research. USDA anticipates continuing a large program with the Bureau for Africa and smaller programs with the Bureau for Latin America and the Caribbean.

DRD managed 85 staff from USDA and the land grant universities who provided long-term technical support to those USAID offices in 1994. This assistance included technicians in agricultural economics, pest management, plant protection and quarantine, food policy and food security, natural resource and environmental management, and rural finances. In addition, USDA performed numerous studies, designed systems, developed materials and accomplished other short-term assignments under those agreements.

Latin America Technical Assistance

The Agriculture and Rural Development Technical Services Project (LAC TECH) continued to play a major role in Latin American rural development. LAC TECH is a regional project which provides technical services in agriculture and natural resources to the USAID

Missions in Latin America and the Caribbean. The providers of technical assistance to LAC TECH are USDA/FAS/ICD, the private consulting firm Chemonics International, and the Land Tenure Center of the University of Wisconsin.

Six full-time USDA/FAS/ICD advisors worked in the LAC TECH Project during the year. These covered the areas of (1) natural resources and forestry management, (2) natural resources and forestry policy, (3) food policy, (4) plant health and quarantine, (5) agricultural research, extension and education, and (6) administrative support. Program areas relatively emphasized by LAC TECH during 1994 were the production of a made-for-television video documenting the role of non-traditional agricultural exports, including tropical fruits, vegetables and flowers, as a tool for economic development in Latin America and the Caribbean, and (2) an emphasis on the publication of technical bulletins arising from the work and experiences of the LAC TECH technical specialists as a means to more widely share project results.

Nicaragua Agricultural Statistics

USDA National Agricultural Statistics Service (NASS) and USDA Economic Research Service (ERS) staffs, working under an agreement between FAS/ICD and the United Nations Development

Programme in Nicaragua, guided their Nicaraguan Ministry of Agriculture counterparts to successful completion of basic surveys of basic grains and livestock. Lack of reliable statistics has long been a problem in Nicaragua. The last agricultural census was done in the 1960's. Data for an early 1970's census were lost in the 1972 earthquake.

Resources Support Service Agreement/Africa Bureau

Beginning in 1982 to the present date USDA has provided agricultural technicians to assist the Africa Bureau and USAID Missions in Africa in helping implement programs dealing in agricultural development. Long-term assistance provided has focused on agricultural development, agricultural economics, food for development, technical agriculture, food for development, support to women's program, agro-forestry, international trade, pest management, pesticide application, and safety and crop loss assessment, emergency grasshopper/locust infestation, natural resources and biodiversity, development of the food sector, technology transfer, strengthening of agricultural institutions, forest policies, land tenure, soil and water conservation, soil fertility, wildlife conservation, watershed management, sustained agricultural productivity, food security, agricultural

marketing, tax and investment policies, and more.

As an outgrowth of the 1982 RSSA and as part of the restructuring of Africa Bureau and its portfolio the Policy, Analysis, Research, and Technical Support (PARTS) Project was created in Fiscal Year 1992. PARTS incorporates and provides ongoing funding for the research and analytical elements of the natural Resource Management Support Project, the Africa Emergency Locust/Grasshopper Assistance Project, the Strengthening African Agricultural Research and Faculties of Agriculture Project, and some elements of the Africa Development Support Project. The main focus of this project is to increase the utilization of information and analysis for AID sponsored agricultural and natural resources policies, programs, and projects in Sub-Saharan Africa.

Short-term activities includes pest management training/workshop, food problems and prospects in sub-Saharan Africa, analytical work and development of food sector strategies, women's programs, agro-forestry, food security evaluations in Africa, nutrition, impact assessment of commodity research in sub-Saharan Africa.

Information Research Service in Agriculture and the Environment

Under another agreement with USAID, the Technical Inquiries Group (TIG) researches, selects and provides technical information needed in the design and implementation of agricultural, agribusiness, natural resource, and environmental protection projects worldwide. Characterized as "timely, relevant, unique, well-researched and dependable", TIG's products help facilitate policy dialogue between USAID and host-governments, address program and project issues, and solve technical problems by linking users with worldwide research results, technology applications and state-of-the-art information.

During the year, TIG staff researched information on 1150 topics in response to technical inquiries, resulting in the dissemination of over 4500 documents to USAID staff, project implementers and cooperators. Utilized were data sources, economic analyses, publications and the expertise of USDA's many agencies, including the worldwide collection of the National Agricultural Library. The Department's network of land-grant universities and other cooperating institutions worldwide, private firms and trade associations were also regularly tapped for information and technical advice.

Famine Mitigation Activity

The Division's agreement with USAID Office of U.S. Foreign Disaster Assistance (OFDA) to implement the Famine Mitigation Activity (FMA) is part of the effort of USAID to assist famine response agencies and personnel to develop and design effective interventions to respond to extreme food insecurity and famine situations. With input from a broad range of specialists, resources have been identified to help develop programs and projects in the areas of early warning and response systems, rapid assessment methodologies, seeds and tools interventions, livestock interventions, water resources development, market interventions, food/cash for work programs, and to provide assistance under conflict situations. In FY 94, FMA:

- o Provided technical assistance to the USAID Missions in South Africa, Niger, Haiti and Zaire;
- o Added to a Famine Mitigation Document Resource Collection of over 3000 related books, studies and reports on famine related topics;
- o Detailed a staff member to Kinshasa, Zaire, to assist the Disaster Assistance Response Team for the Rwanda relief effort.
- o Provided grants to the International Institute for Tropical Agriculture for drought resistant varieties of

cassava and sweet potato production and for development and distribution of heat-resistant Rinderpest vaccines in the Horn of Africa.

South Pacific

Under the Commercial Agricultural Development Project PASA with USAID in Suva, Fiji, the Agricultural Research Service (ARS) has provided technical assistance to the Pacific Islands by transferring quarantine treatment technology for fresh fruits and vegetables. This quarantine treatment technology emphasizes high temperature forced-air treatment for fruit flies. ARS provided the initial testing equipment and training in equipment use and developing research protocols. The project goal is to increase the value of agricultural exports to regional niche markets.

Eastern Europe and the New Independent States

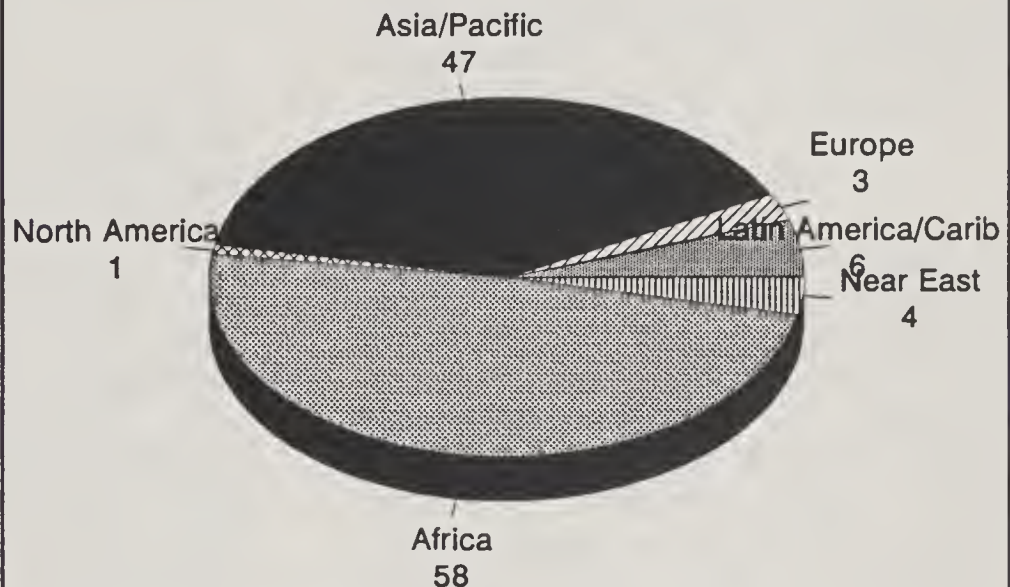
The Division is assisting USDA's Forest Service in a variety of activities in Russia, and the Agricultural

Marketing Service in market information initiatives in Russia and Bulgaria with technical information service to organizations in the region, and with other initiatives in the region as well.

Technical Training

The Training Unit is responsible for providing relevant and appropriate training and technical assistance for international

**INTERNATIONAL PARTICIPANTS ATTENDING USDA TRAINING COURSES
IN THE UNITED STATES IN FY 1994**



agricultural professionals and organizations from lower and middle income nations and the newly emerging democracies in order to promote and enhance sustainable agricultural development throughout the world. The Training Unit collaborates with other agencies within the Department and other government organizations, universities and

the private sector to conduct quality, state-of-the-art activities that are applicable to home country situations, thus contributing to world agricultural food security and prosperity.

The Unit's overall objectives are to:

1. Offer a portfolio of new and revised technical training courses in the U.S. based on current and projected needs.
2. Increase efforts to tailor U.S. training courses to meet specific needs of selected development projects.

During FY 1994, The Training Unit conducted 13 technical courses in the United States and managed two overseas activities. A total of 119 participants were trained in the Unit's courses. In the United States, 13 technical courses were conducted for approximately 119 participants from 34 countries around the world. The Training Unit provided technical assistance in two countries. In Ethiopia, a training needs assessment was conducted for the South East Rangelands Project, sponsored by the African development Bank and a workshop was facilitated in Niger on Famine Mitigation for USAID's Office of Foreign Disaster Assistance.

Management

Through a Resources Support Service Agreement with A.I.D.'s

Research and Development Bureau, DRD manages the Implementing Policy Change (IPC) Project which is now in its fourth year of implementation. Its objective is to support developing country managers in implementing important and difficult policy changes. Short-term technical cooperation activities have taken place in 12 countries in Africa, Latin America and the Caribbean and Asia supporting policies. Additionally, this Project has expanded to include areas of economic growth and advisory services in agribusiness, agricultural economics and natural resources management and democratic strengthening of rural areas.

Saudi Arabia

Since 1975, USDA has cooperated with the U.S. Treasury Department in implementing technical assistance activities in Saudi Arabia. In the Agriculture and Water (AGWAT) project, under the United States-Saudi Arabian Joint Commission on Economic Cooperation, USDA is working with the Saudi Ministry of Agriculture and Water Resources develop its National Agriculture and Water Research Center (NAWRC) at Riyadh. The project emphasizes training of up to one year's duration for Saudi scientific staff in research topics at USDA and university research facilities. Two ICD agricultural scientists, stationed at NAWRC, serve as mentors for their

Saudi colleagues. Staff will be reduced to one in FY 95 and training will continue to be emphasized.

In addition...

Under this USAID-sponsored project, USDA's National Economics and Statistics Service (NASS) and Economic Research Service (ERS) are assisting the Directorates of Planning and Economic Affairs (DPAE) of the Moroccan Ministry of Agriculture and Agrarian Reform (MARA) improve its capability in agricultural statistics and economic analysis.

Important elements of the project planned for 1995 will be the development, with NASS assistance, of a local area network (LAN) which will eventually link all the DPAE technical and field offices. The LAN will provide electronic mail service within DPAE, common access to computer software and linkages to external data bases.

The project also provides opportunity for Moroccan statisticians and economists to gain on-the-job experience with short-term internships in NASS and ERS program areas.

INTERNATIONAL ORGANIZATION AFFAIRS

The International Organization Affairs Division (IOAD) manages

the USDA's role in roughly 30 international organizations and consultative committees concerned with global food and agricultural systems and natural resource management.

Food and Agriculture Organization (FAO)

IOAD, in cooperation with the Department of State and USDA's program agencies, worked to assure that FAO establish and implement improved governance procedures and implement clear program priorities. As a result of FAS/ICD/IOAD leadership, the interests of USDA program agencies are well reflected in FAO's 1994-95 Program of Work and in the budget adopted to support these programs. As FAO Director General Diouf completed his first year in office, the United States focused attention on FAO programs of importance to U.S. agriculture, including sustainable agriculture, plant and animal genetic resources, global information systems, and 'Codex Alimentarius'. IOAD staff accompanied most governing body delegations in technical advisory and support roles.

IOAD coordinated interagency activities preparatory to the five biennial FAO regional Conferences held in 1994.

IOAD, APHIS and ARS worked jointly to assure that FAO moved quickly to staff and initiate an effective work plan to guide the program of the

secretariat formed to oversee the International Plant Protection Convention.

IOAD and ARS worked together to assure that the United States is effectively represented in the meeting to renegotiate FAO's International Undertaking on Plant Genetic Resources in order to assure that the rights of U.S. plant breeders and farm businesses are protected. IOAD collaborated with State Department, the U.S. Agency for International Development, and USDA's Agricultural Research Service to guide FAO in preparing for a 1996 International Technical Conference on Plant Genetic Resource.

IOAD collaborated with the Forest Service and other government agencies to enable a Forest Service official to be selected as FAO Assistant Director General for Forestry.

IOAD worked with ARS in developing a strategy calling for more rapid progress by FAO for follow up activities on plant and animal genetic resources undertaken in response to the UN Conference on Environment and Development (UNCED).

Inter-American Institute for Cooperation on Agriculture (IICA)

IOAD staff coordinated

preparation for and participated in the Seventh Regular meeting of the Inter-American Board for Agriculture in Mexico and the Fourteenth Regular meeting of this Executive Committee of IICA, held in San Jose, Costa Rica. The U.S. Delegation worked to hold the IICA core budget to a zero real growth rate for 1994 and 1995 after adjustment for projected inflation.

IOAD staff coordinated interagency activities leading to the preparation and adoption of a revised program of work for the IICA -- the Medium-Term Plan, 1994-1999. The revised program, as adopted by IICA's Board of Ministers, focuses on sustainable agriculture and on activities needed to facilitate trade in agricultural commodities and products in the hemisphere.

The Inter-American Board for Agriculture, meeting in Mexico City in September, also elected Mr. Carlos Aquino Gonzales of the Dominican Republic to serve a four-year term as the Director General of IICA. The United States supported Mr. Aquino for this position. The Director General-elect selected Mr. David Joslyn, an American, as his Deputy Director General. They assumed their duties together on January 14, 1994.

IOAD staff, in cooperation with USDA agencies, continues to participate actively in the governing and program oversight committees of the Central

American Tropical Agricultural Research and Training Institute (CATIE). These committees include oversight of a restructuring mandated last year by the Inter-American Conference of Ministers of Agriculture.

Organization for Economic Cooperation & Development (OECD)

OECD is the only international organization in which membership is limited to countries that play a significant role in world affairs and trade. The OECD's committee and working group structure provides an unparalleled forum for identifying issues important to U.S. agriculture and for building consensus on potentially divisive issues in a non-confrontational manner.

IOAD's liaison function with OECD supports the active participation of USDA's professional specialists and designated authorities in over 35 OECD hosted-meetings and working group sessions each year. As a leader in the Committee for Agriculture, USDA is able to both guide and work toward consensus in areas important to the United States and to USDA's clients in areas related to agricultural trade, rural development, and the environment. Emerging issues being actively pursued include trade and the environment,

agriculture and the environment, procedures to evaluate the safety of science-based products of biotechnology, product labeling, and global warming.

As the next round of trade negotiations are expected to focus on the "green box issues" which were largely passed over in the Uruguay Round of the GATT, OECD will again be well positioned to contribute to the resolution of issues related to agricultural trade and farm income and price support programs.

International Fund for Agricultural Development (IFAD)

IOAD, the U.S. Agency for International Development, and the Department of State represented the United States in a series of meetings that brought to tentative closure nearly 3 years of difficult multilateral negotiations centered on IFAD's Fourth Replenishment. Reaching agreement meant not only negotiating target funding levels and different country shares, but tying these to a governance restructuring package that radically changes the nature of the organization. Most notable among the governance changes were replacing the traditional country category system with informal groupings, and integrating voting rights and board membership with contributions. The draft

replenishment/governance change package was accepted by the IFAD Governing Council in January 1995, contingent upon individual country pledges actually producing the target funding levels by September 1995.

A collaborative international organization carambola fruit fly control project got underway in 1994 thanks to IFAD's initiative and leadership. This was in direct response to a concern of USDA's Animal and Plant Health Inspection Service (APHIS). A junior professional, fully funded by APHIS through the Associate Professional Officer's program, also left in 1994 to work with FAO and IFAD on this project.

Work continued through the year to encourage IFAD to make management and other reforms that could improve its operations. Particularly noteworthy is the way IFAD, with full participation of its staff, cut its administrative budget for two consecutive years in both real and nominal terms. The reductions in real terms were 13 percent in 1994, and an additional 3.6 percent is set for 1995. This is a model to be emulated.

Placement of Americans in International Organizations

IOAD worked closely with the Department of State to increase

the numbers of U.S. citizens employed in staff positions in FAO and other international organizations. The objective is to increase the percentage of Americans in senior staff and officer positions in the institutions which are part of the U.N. System.

In response to a Secretary's memorandum encouraging greater USDA involvement with international organizations, ICD and the Department's Office of Personnel (OP) jointly established an interagency committee to identify ways to strengthen these efforts. After extensive effort by the Committee and its subgroups, a number of recommendations were developed to help resolve problems that might be restricting employees' interest in these jobs, and to develop strategies for recruiting and supporting highly qualified candidates for targeted positions.

Associate Professional Officers Program (APO)

The objective of the APO program is to place highly qualified young professionals in junior officer positions in international organizations. An entomologist, assigned to the FAO carambola fruit fly project in Suriname, was the only APO posted in 1994. Three other APOs will complete their tours in late 1995. These include one with FAO, one with the World Food Programme, and one with the International Fund

Agricultural Development.

Liaison with Multilateral Development Banks

ICD staff provided leadership for FAS and USDA's liaison activities with institutions like the World Bank, the Inter-American Development Bank, and the American international development community more generally. These activities served three related objectives: (a) to provide these institutions and bodies with information on USDA's international programs and each USDA agency's interests and capabilities; (b) to maintain and expand the level of requests for USDA's reimbursable technical services; and, (c) to identify areas where further collaboration would be of mutual interest and benefit.

1890 Institution Support

IOAD also provided a member of the Department's 1890 Task Force Executive Secretariat. This meant attending and providing support for Task Force meetings, both in Washington and in the field, as well as visiting 1890 institutions, conducting workshops, assisting students in career searches, and otherwise promoting strengthened linkages and understandings between the Department and these institutions.

IV. PROGRAMMATIC OBJECTIVES IN 1995

FOOD INDUSTRIES

During FY 1995, the Food Industries Division will pursue the following programmatic objectives:

1. Programmatic Objective: Increase information and collaboration among FID program areas to achieve better use of resources, operational efficiencies and more balance recognition of each program activities.

Performance Measure: Ninety percent of FID staff members will have directly contributed to an activity in one of the other program areas by the end of the year.

2. Programmatic Objective: Develop a flexible, easily managed mechanism(s) for sharing targeted program information within the Division/Agency and with other audiences (clients and sponsors).

Performance Measure: By 9/30/95 each program area will have developed the content of a Division-wide program aid and initiated action for publication with the FAS Publication Office.

3. Programmatic Objective: Collaborate with FAS Agricultural Affairs Officers and other USDA agencies to implement the Cochran

Fellowship Program in 42 countries and emerging democracies. Cochran activities will be started in South Africa, Latvia, Lithuania, Estonia, Philippines, Indonesia, and Romania.

Performance Measure: Cochran Program FY95 initiation announcements to all countries completed by January 31, 1995; staff interview trips to all countries completed by April 1, 1995; estimated 400 international participants completed training in the U.S. by September 30, 1995.

4. Programmatic Objective: The Cochran Fellowship Program will develop a process to involve other ICD and USDA divisions in Cochran forward planning, specifically to determine country involvement, size of the program in each country, and to assist with prioritizing commodity/market development/developmental trade activities where Cochran training will be useful to accomplish agency objectives.

Performance Measure: Agricultural Attaché's suggestions will be solicited during country-specific interview trips; completed by April 1, 1995. Follow-up meeting with FAS commodity divisions will occur by April 1995. A plan to accomplish the above objective will be in-

place by September 1995, in time for FY96 program planning.

5. Programmatic Objective: Organize and conduct 2 agribusiness opportunity missions to Caribbean Basin and Central European countries and/or Turkey and collaborate with other organizations on similar missions in Africa.

Performance Measure: Recruit 8-10 quality U.S. companies per mission assuring that at least half are small and medium-sized businesses. Promote specific business linkages that result in 4 or 5 mutually beneficial business transactions per mission.

6. Programmatic Objective: Organize and conduct 4-5 agricultural marketing workshops in Romania, Hungary and Czech Republic in Central Europe, Latin America/Caribbean, Asian and African regions; conduct more specialized workshops (e.g., food safety/labeling; plant quarantine, post-harvest technologies, food distribution, HACCP and food packaging);

Performance Measure: Marketing workshops are well attended (e.g., averaging 50 participants each) and subjects are thoroughly covered by U.S. experts leading to specific new contacts between U.S. and foreign private sector representatives.

7. Programmatic Objective:

Participate in interagency policy dialogue affecting agricultural trade and investment in targeted regions; specifically provide support to the White House Trade and Investment Conference in Central Europe and the Summit of the Americas follow-up.

Performance Measure: Assure significant participation (numbers and levels) by USDA representatives and USDA business contacts (domestic and foreign) in the White House Conference and the post-summit AgroAmericas Conference. Promote specific business networking opportunities for the agribusiness participants.

8. Programmatic Objective: Collaborate with AID in initiating workshops/seminars related directly to development of a viable agribusiness sector in Africa and subsequent trade/business linkages beneficial to U.S. agriculture.

Performance Measure: Two national and one regional workshop/seminar will be organized and conducted in Sub-Saharan Africa. Follow-up will be provided upon request.

9. Programmatic Objective: Establish and/or refine Division-wide data bases on participants, program activities, and current and potential agribusiness contacts.

Performance Measure: Top priority will be given to

agribusiness data base which will be revised and operational by 9/30/95; significant progress will be made on other 2 databases.

RESEARCH AND SCIENTIFIC EXCHANGES

The Division in Fiscal Year 1995 will focus its programs in high priority areas in agriculture and forestry, as identified by USDA and the U.S. agricultural science community. Special emphasis will be on programs and activities to:

- o Support research and technology transfer endeavors that address phytosanitary and other current trade barrier issues, including cooperation with foreign scientists on developing substitutes for methyl bromide;

- o Expand cooperative research to control and prevent introduction of exotic diseases and pests. RSED will initiate cooperative research among the United States, Caribbean, Central and South American countries on Gemini viruses, which are threatening the U.S. horticultural industry;

- o Support measures that increase the exploitation of natural controls for insects, pathogens and weeds. RSED will conclude the regional Central and Eastern Integrated Pest Management (IPM) project in June, 1995. Demonstration activities will

continue in Romania;

- o Support activities that augment our access to the world's genetic diversity to develop new agricultural crops, and crop varieties to support low input agricultural systems;

- o Enhance international research to expedite development of new, improved industrial products from agricultural and forest materials. RSED will work with the Alternative Agricultural Research and Commercialization Center (AARCC) to plan meetings with the European Community (EC) to discuss alternative agriculture products;

- o Support activities directed toward enhancing U.S. agricultural and forestry competitiveness;

- o Support international research and cooperation to assist production, processing, and waste-management practices to have positive impacts on natural resources and ecosystems. In cooperation with other U.S. Government agencies, RSED will initiate demonstrations and projects on the use and management of marginal-quality water in agriculture in the Middle East, beginning with an inter-regional workshop in Israel;

- o Increase collaboration among the United States and participating Middle Eastern and Eastern European nations to

accelerate agricultural development through improving horticultural crops, controlling livestock diseases, and introducing environmentally sustainable agricultural practices. RSED will work with Land O'Lakes to conduct a regional animal health seminar in Sofia, Bulgaria in early Fall, 1995. Participating countries include Albania, Macedonia, Bulgaria and Romania;

- o Continue to encourage participation in the Scientific Cooperation Program of Historically Black Colleges and Universities and Hispanic-Serving Institutions;

- o Increase U.S. scientist linkages with national and international agricultural research organizations, including the CGIAR International Agricultural Research Centers, FAO/IAEA, IICA, CARDI, and CATIE;

- o Refine application, evaluation and administrative procedures for the Scientific Cooperation Program (SCP), which was revamped during FY1994.

DEVELOPMENT RESOURCES

The Division will continue, in FY 95, to collaborate with USAID to provide jointly funded and reimbursable technical assistance and training. DRD continues to work closely with the agencies of the Department

to facilitate their involvement in reimbursable and cooperative technical assistance and training activities.

DRD will seek to increase cooperative activities with other U.S. government agencies, United Nations agencies, FAO, the World Bank, the African Development Bank, the Asian Development Bank, the InterAmerican Development Bank, other multilateral development banks and host country governments. We will emphasize collaboration with the U.S. private sector to enhance American firms' competitive positions in bidding for projects sponsored by the World Bank and regional development banks. American firms which bid on agricultural development projects having elements that are clearly and traditionally governmental (e.g., agricultural research and extension, soil and other natural resources conservation, agricultural statistics, market news and market regulation, etc.) will be offered equal access to USDA resources on a reimbursable basis.

Contributions to the sustainable global agricultural system in 1995 will emphasize the application of USDA skills to topical and technical areas of natural resources, forestry, environment, energy, economics, famine mitigation, disaster assistance, and gender considerations in international agricultural development.

The Development Resources Division will continue coordination of the collaboration with Peace Corps to identify and recruit USDA staff for agricultural-related project managers.

Priority programmatic initiatives for new or expanding projects cuts across the developing world. With the elections of 1994 South Africa has moved from apartheid to a government of national unity seeking to build a country free of poverty and to eradicate the inequities of apartheid. The Division will seek to implement at least one substantive technical assistance activity in 1995 in the Republic of South Africa.

Geographic emphasis will be in Central and Eastern Europe, the newly independent states of the former USSR and other emerging democracies in Europe and the Americas, plus targeted areas of Southern Africa. We will continue to contribute technical and training skills to other Middle East and North African countries and other areas of traditional DRD-coordinated assistance, seeking new partnerships and mechanisms to meet local agricultural development needs.

Special emphasis on:

- o Coordination, planning and sharing the use of resources of key players in international agricultural development, especially targeting those

topical and technical areas noted above, and focusing on improved coordination within USDA and with specific others, including the Environmental Protection Agency, the Department of Energy, and the Peace Corps;

- o Increased effort to involve American agriculturalists in international activities so that they may become more familiar and comfortable with international food and nutrition, agriculture and natural resource practices, systems, issues, and challenges;

- o Increased DRD interrelationships with staff and programs of other USDA agencies to increase familiarity with unique skills available in the department and potential for assistance to sustainable international agricultural development;

- o Ongoing identification of unique and scarce resources --human, institutional, technical, and other resources-- and the establishment of mechanisms and relationships to allow access to those resources;

- o More effective utilization of limited DRD staff resources through strategic planning, staff training and additional cultural and foreign language experiences and opportunities;

- o Increased contacts and interaction with DRD staff on

detail to USAID and other agencies to heighten awareness of USDA technical capabilities in international development and to ensure that the policy and procedural matters of the Department and ICD are understood and represented;

INTERNATIONAL ORGANIZATION AFFAIRS

During 1995, the International Organizations Division will pursue the following programmatic objectives:

- o Work more closely with the Department of State and other Federal Agencies to expand and improve U.S. cooperation/relations with international organizations, including developing and implementing mechanisms to enhance information-sharing about USDA and U.S. agricultural community programs and expertise;

- o Collaborate with the Department of State and others to further develop effective working relationships with the Directors General of the FAO and IICA and the president of IFAD, and to foster changes in the organizations that could improve programs and operations;

- o Expand collaboration with senior USDA officials and the technical agencies of international organizations in relation to the special programs and activities of international organizations concerned with food and agriculture;

- o Strengthen policy input into the programs and projects of the multilateral development banks and seek expanded involvement of USDA agencies in bank-funded projects;

- o Initiate a pilot program for detailing staff to multilateral financial institutions and international organizations.

- o Assign staff to monitor U.S. and international organizations' rapidly expanding efforts regarding the environment and follow up to UNCED and other international conferences and conventions, and coordinate/facilitate USDA interests in these;

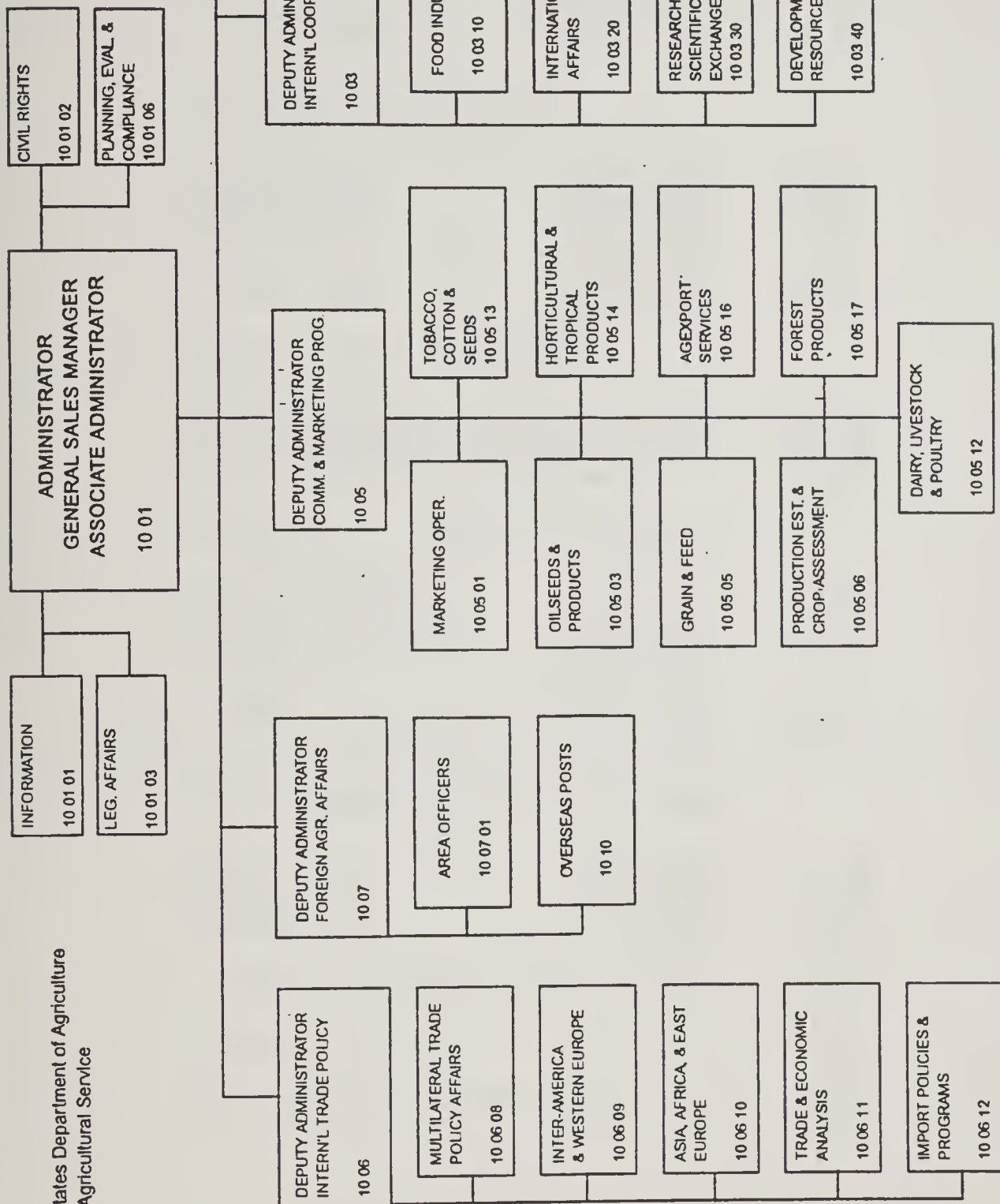
- o Strengthen and expand efforts to recruit and place qualified Americans in international organizations, particularly those associated with the Historically Black and Hispanic colleges and universities.

- o Increase liaison with other USDA agencies and appropriate universities and private sector organizations to strengthen international organization recruitment efforts and implementation of the Associate Professional Officers program with FAO and the International Fund for Agricultural Development.

- o Continue to take the lead to make the ICD/Agency International Contacts Group an effective mechanism for the coordination and strengthening of the international programs of the Department of Agriculture.

Recommended: *Stephen C. Martin*
 FAS Administrator
 Concurred: *Carol Moore*
 Under Secretary F & EAS
 Approved: *Walter E. Brown Jr.*
 Asst. Secy. Administration
 Approval Date: 4/8/95

Appendix A



United States Department of Agriculture
 Foreign Agricultural Service

Supersedes FAS chart dated 5/20/94

The mission of the Foreign Agricultural Service is to advance the interests of the agricultural community and the general public by working to develop and expand foreign markets for U.S. food and agricultural products.

FAS/ICD FY 94 Financial Statistics 11-25-94

Totals by Source of Funds

	Amount	% of Total
AID	25,325,986	51.5%
USDA	7,233,173	14.7%
Appropriated	7,064,000	14.4%
SEED/NIS	4,862,219	9.9%
Foreign Govts	1,467,629	3.0%
Intl Organizations	1,183,826	2.4%
Other Federal	757,343	1.5%
Short Courses	646,662	1.3%
Universities	602,841	1.2%
Total Funds	49,143,678	100.0%

Totals by Type of Funds

Appropriated	7,064,000	14.4%
Reimbursable	37,420,727	76.1%
Trust Funds	4,658,951	9.5%
Total Funds	49,143,678	100.0%

AID Funding as Percentages:

AID funds as percent of all funds	51.5%
AID as percent of non-appropriated	60.2%
AID as percent of reimbursable	67.7%

Management vs. Program Obligations:

Agency Management	3,969,871	8.1%
Program Management	7,943,406	16.2%
Program	37,118,222	75.7%
Total Obligations	49,031,499	100.0%

Total Program Obligations by Type:

Appropriated	3,200,946	8.6%
Trust	3,998,283	10.8%
Reimbursable	29,918,993	80.6%
Total Prog Obligs	37,118,222	100.0%
Of which. AID	19,397,752	52.3%
AID percent of reimbursable	64.8%	

BUSINESS MISSIONS, WORKSHOPS, AND CONSULTATIONS**IN FY 94**

REGION	COUNTRY	MISSIONS	WORKSHOPS	CONSULTATIONS
AFRICA	COTE D'IVOIRE	0	1	0
	MADAGASCAR	0	1	0
	MOROCCO	0	0	4
	UGANDA	0	1	0
	ZAMBIA	0	1	0
TOTAL	5	0	4	4
CARIBBEAN	BAHAMAS	0	0	1
	JAMAICA	0	0	6
TOTAL	2	0	0	7
CENTRAL AMERICA	EL SALVADOR	0	1	0
EUROPE	HUNGARY	1	0	0
	POLAND	0	1	0
TOTAL	2	1	1	0
GRAND TOTAL	10	1	6	11

Appendix D

**COCHRAN FELLOWSHIP PROGRAM
COMPLETED TRAINING
FY 1994**

REGION	COUNTRY	# PARTICIPANTS
AFRICA	ALGERIA	6
	COTE D'IVOIRE	2
	SENEGAL	4
TOTAL	3	12
ASIA	CHINA	19
	HONG KONG	8
	INDONESIA	13
	KOREA, SOUTH	22
	MALAYSIA	16
	SINGAPORE	6
	TAIWAN	23
	THAILAND	10
	TURKEY	13
TOTAL	9	130
CARIBBEAN	TRINIDAD & TOBAGO 1	7
CENTRAL AM	PANAMA 1	5
EUROPE	ALBANIA	13
	ARMENIA	5
	BELARUS	13
	BULGARIA	27
	CROATIA	2

	CZECH REPUBLIC	14
	GEORGIA	8
	HUNGARY	26
	KAZAKHSTAN	21
	KYRGYZSTAN	20
	MOLDOVA	12
	POLAND	63
	RUSSIA	70
	SLOVAK REPUBLIC	29
	SLOVENIA	7
	TAJIKISTAN	6
	TURKMENISTAN	3
	UKRAINE	21
	UZBEKISTAN	5
TOTAL	19	365
NORTH AMERICA	MEXICO	22
SOUTH AMERICA	COLOMBIA	8
	VENEZUELA	12
TOTAL	2	20
GRAND TOTAL	36	561

Appendix E

**PROFESSIONAL DEVELOPMENT PROGRAM
PARTICIPANT ACTIVITY
FY1994**

SPONSORING ORGANIZATION	COUNTRY	ACADEMIC	COMPLETED NON-ACADEMIC
FOOD & AGRICULTURE ORGANIZATION (FAO)	BARBADOS	0	2
	BOTSWANA	2	0
	CHINA	0	37
	EGYPT	0	2
	ETHIOPIA	3	1
	GAMBIA, THE	1	0
	GUYANA	3	0
	INDIA	1	42
	KENYA	1	0
	MYANMAR	0	2
	NIGERIA	0	2
	SAUDI ARABIA	2	0
	SWAZILAND	1	0
	SYRIA	0	1
	TANZANIA	0	1
	TURKEY	1	28
	YEMEN	1	0
	ZIMBABWE	0	5
	TOTAL	18	123
FOREIGN COUNTRY FUNDS	BANGLADESH	1	0
	INDONESIA	0	9

	SAUDI ARABIA	0	5
TOTAL	3	1	14
OTHER USDA AGENCY APPROPRIATION	BRAZIL	0	6
	BULGARIA	0	3
	FRANCE	0	1
	GERMANY	0	1
	INDONESIA	0	5
	MONGOLIA	0	2
	NICARAGUA	0	15
	POLAND	0	20
	RUSSIA	0	2
TOTAL	9	0	55
WORLD BANK	NIGERIA 1	0	3
GRAND TOTAL	31	17	195

Appendix F

**ONGOING COLLABORATIVE RESEARCH PROJECTS
BY COUNTRY AND SUBJECT IN FY 1994**

REGION	COUNTRY	# OF PROJECTS
ASIA	CHINA	7
	INDIA	61
	TAIWAN	16
TOTAL	3	84
EUROPE	BULGARIA	2
	CROATIA	2
	CZECH REPUBLIC	4
	FINLAND	1
	GERMANY	4
	HUNGARY	17
	IRELAND	6
	NETHERLANDS	1
	POLAND	32
	ROMANIA	2
	SERBIA	3
	SLOVAK REPUBLIC	8
	SLOVENIA	1
TOTAL	13	83
NEAR EAST	EGYPT	29
	EGYPT/ISRAEL	1
	JORDAN	1
TOTAL	3	31
NORTH AMERICA	MEXICO	1
PACIFIC	AUSTRALIA	1
SOUTH AMERICA	VENEZUELA	1
GRAND TOTAL	22	209

SUBJECT	# OF PROJECTS
AGRICULTURAL ECONOMICS	2
AGRICULTURAL PRODUCTION	23
AQUACULTURE/FISHERY	6
BIOTECHNOLOGY	6
FORESTRY/WOOD PRODUCTS	14
GERMPLASM/GENETICS	28
GLOBAL ENVIRONMENT	3
HUMAN NUTRITION	7
NEW TECHNOLOGY/COMPUTERS	3
PEST/DISEASE PREVENTION	62
POSTHARVEST TECHNOLOGY	2
SOIL/WATER RESOURCES	23
SUSTAINABLE AGRICULTURE	30
GRAND TOTAL	209

Appendix G

**ONGOING FOREIGN CURRENCY/JOINT BOARD RESEARCH
BY COUNTRY AND FUNDS, AND SUBJECT
FY 1994**

REGION	COUNTRY	# OF PROJECTS	FUNDS (\$000)
ASIA	INDIA	57	5810
	TAIWAN	16	2992
TOTAL	2	73	8802
EUROPE	CROATIA	2	276
	CZECH REPUBLIC	3	144
	HUNGARY	13	714
	POLAND	31	2058
	SERBIA	3	77
	SLOVAK REPUBLIC	8	331
	SLOVENIA	1	113
TOTAL	7	61	3713
NORTH AMERICA	MEXICO	1	299
GRAND TOTAL	10	137	12814

SUBJECT	NUMBER OF PROJECTS
AGRICULTURAL ECONOMICS	2
AGRICULTURAL PRODUCTION	14
AQUACULTURE/FISHERY	4
BIOTECHNOLOGY	5
FORESTRY/WOOD PRODUCTS	13
GERMPLASM/GENETICS	12
GLOBAL ENVIRONMENT	1
HUMAN NUTRITION	6
PEST/DISEASE PREVENTION	40
SOIL/WATER RESOURCES	11
SUSTAINABLE AGRICULTURE	29
GRAND TOTAL	137

**U.S. SCIENTIFIC EXCHANGE TEAM VISITS
FY 94**

REGION	COUNTRY	EXCHANGES	PARTICIPANTS
AFRICA	KENYA	1	1
	MOROCCO	1	1
TOTAL	2	2	2
ASIA	CHINA	23	75
	INDIA	2	4
	NEPAL	1	2
	PHILIPPINES	1	1
	TAIWAN	1	2
	THAILAND	1	1
	TURKEY	1	1
TOTAL	7	30	84
CENTRAL AMERICA	COSTA RICA	1	2
	HONDURAS	1	2
TOTAL	2	2	4
EUROPE	CZECH REPUBLIC	1	1
	ESTONIA	1	1
	FRANCE	1	3
	HUNGARY	3	8
	IRELAND	9	18
	ITALY	1	3
	LITHUANIA	1	1
	NETHERLANDS	1	1
	ROMANIA	2	2
	RUSSIA	7	11
	SLOVAK REPUBLIC	1	2
	SWEDEN	1	1
	UKRAINE	1	1
	UNITED KINGDOM	3	3
TOTAL	14	33	53
NEAR EAST	ISRAEL	1	3
NORTH AMERICA	MEXICO	1	4
PACIFIC	AUSTRALIA	5	7
	NEW ZEALAND	4	5
TOTAL	2	9	12
SOUTH AMERICA	ARGENTINA	4	8
	BOLIVIA	1	2
	BRAZIL	2	4
	VENEZUELA	1	2
TOTAL	4	8	16
GRAND TOTAL	33	88	179

Appendix I

TECHNICAL ASSISTANCE ACTIVITY
FY 1994

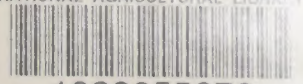
SUBJECT	REGION					TOTALS
	AFRICA	ASIA/ PACIFIC	LATIN AMERICA	MIDDLE EAST	EUROPE/ NIS	
AGRICULTURAL ECONOMICS	24	2	13	2	3	44
AGRICULTURAL PRODUCTION	6	3	4	0	0	13
AQUACULTURE/FISHERY	0	0	0	0	0	0
BIOTECHNOLOGY	6	5	2	0	2	15
FORESTRY/WOOD PRODUCTS	14	12	30	0	4	60
GERMPLASM/GENETICS	0	2	0	0	0	2
GLOBAL ENVIRONMENT	26	5	15	0	9	55
HUMAN NUTRITION	0	0	10	0	0	10
HUMAN RESOURCES DEVELOPMENT	4	3	3	0	0	10
INSTITUTION BUILDING	19	2	16	0	3	40
NEW TECHNOLOGY/COMPUTERS	1	0	0	0	2	3
PEST/DISEASE PREVENTION	16	8	57	0	5	86
PROGRAM/PROJECT MANAGEMENT	28	0	2	0	2	32
SOIL/WATER RESOURCES	11	7	19	0	16	53
SUSTAINABLE AGRICULTURE	6	0	0	3	2	11
TRADE AND INVESTMENT	14	1	26	0	9	50
TOTALS	175	50	197	5	57	484

Appendix J

**INTERNATIONAL PARTICIPANTS ATTENDING USDA TRAINING COURSES
IN THE UNITED STATES IN FY 1994**

REGIONS	COUNTRY	PARTICIPANTS
AFRICA	COTE D'IVOIRE	2
	ETHIOPIA	1
	GAMBIA, THE	2
	GHANA	2
	KENYA	2
	MALAWI	1
	MOROCCO	4
	MOZAMBIQUE	2
	NIGERIA	32
	SUDAN	1
	TANZANIA	3
	UGANDA	3
	ZIMBABWE	3
TOTAL	13	58
ASIA	BANGLADESH	5
	CHINA	2
	INDONESIA	1
	KOREA, SOUTH	2
	MYANMAR	2
	PAKISTAN	30
	THAILAND	1
	TURKEY	4
TOTAL	8	47
CARIBBEAN	ST. LUCIA	1
	TRINIDAD & TOBAGO	1
TOTAL	2	2
CENTRAL AMERICA	BELIZE	1
	GUATEMALA	1
TOTAL	2	2
EUROPE	BULGARIA	1
	SLOVENIA	2
TOTAL	2	3
NEAR EAST	EGYPT	1
	ISRAEL	1
	JORDAN	1
	SAUDI ARABIA	1
TOTAL	4	4
NORTH AMERICA	MEXICO	1
SOUTH AMERICA	ECUADOR	1
	VENEZUELA	1
TOTAL	2	2
GRAND TOTAL	34	119

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